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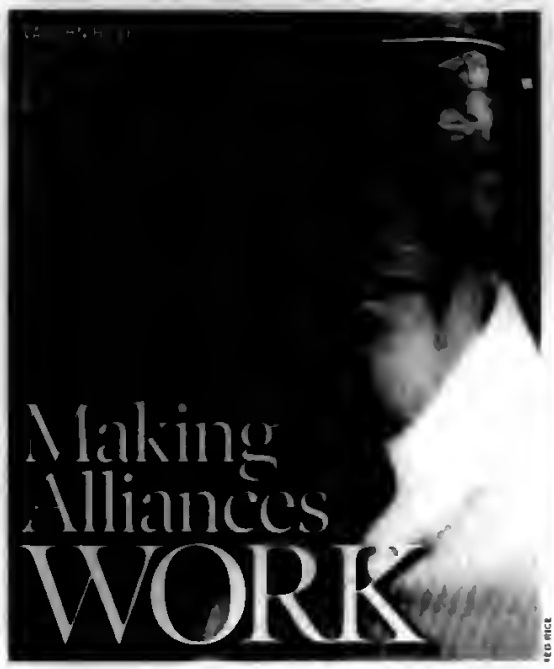

TED RICE

THREE QUARTERS OF ALL BUSINESS alliances fail to meet the expectations of one or more partners. To make partnerships succeed, practitioners suggest focusing on relationship-building skills and constant communication.

Story begins on page 30.

DELTA LOOKS BEYOND SAP TO BOLSTER R/3

Airline among those turning to third parties to better manage supply chain

BY MARC L. SONGINI

Like some of its competitors, Delta Air Lines Inc. has come to the realization that it needs outside help in plugging some gaps in its enterprise resource planning and supply chain management system.

The Atlanta-based airline last week announced plans to augment its SAP AG back-office system by adding an application for maintenance-parts management developed by Xelus Inc. in Fairport, N.Y.

Delta is the latest of several airlines that have turned to third-party vendors to help customize and integrate mission-critical applications rather than upgrade to their primary vendors' next-generation software.

The Xelus modules will be able to share data more easily than Delta's homegrown ones.

"I don't care what people say, I don't care what advance there has been in technology, integration is not easy," said Walter Taylor, Delta's ERP program director. "We're still waiting for the silver bullet."

Delta went live with the finance modules in SAP's R/3 suite last July and is now implementing its supply chain applications, Taylor said. But, he added, the airline picked Xelus to use in its maintenance operations because it has industry-specific features that can better handle spare parts — capabilities that SAP doesn't offer.

Taylor said he expects the Xelus software to help reduce the size of the airline's spare-parts inventories and better ensure that parts are available at various airports when they're needed.

Delta's decision follows a similar move made late last year by British Airways PLC, which is in the midst of an SAP R/3 implementation to replace

Delta, page 16

MICROSOFT CHANGES SALES STRATEGY

Users like plan to present 'solutions'

BY CAROL SLIWA
ANAHEIM

Microsoft Corp.'s sales force is adopting a significantly different approach to working with its large corporate customers.

Rather than simply promoting individual products, the software giant plans to put together customized "integrated solutions" of software packages and services to address specific problems, said Charles Stevens, vice president of Microsoft's enterprise and partner group. For example, some packages could help companies link with business partners or connect with customers, Stevens told more than 3,200 attendees at last week's Fusion 2001 conference here.

DAVID JOEL

SEARS' MILLER: Give us solutions, not products.

An account manager and a technical specialist will be dedicated to each account. And the sales force will make calls on business decision-makers in addition to IT.

Microsoft introduced the approach July 1, after running a pilot. But Stevens said he doesn't expect the company's worldwide sales and service organization to be completely aligned behind the initiative for 12 months.

However long it takes, several corporate users and industry analysts agree it's the right approach if Microsoft wants a better chance in the enterprise.

"People come in here and they talk to us about products, but we're more interested in solutions — how can the software provide more meaningful

Microsoft, page 16

SECURITY SHOVES AUCTIONS IN-HOUSE

Volkswagen reins in online procurement

BY LEE COPELAND

During the past 15 months, Volkswagen AG has spent $5.2 billion buying parts, PCs and raw materials by means of an online auction service that has helped it slash procurement costs by 40% to 50% and cut contract negotiations from as long as three months to one day.

But because of nagging security concerns, the German automaker plans to run eBreviate's auction software on its own servers behind its corporate firewall, said Meike-Uta Hansen, director of business-to-business online negotiations at Volkswagen.

"We're doing this mainly for security reasons," said Hansen. "It's very sensitive data that gets exchanged, and we want to be the owner of this data — us and our suppliers, and no one else."

Volkswagen's strategic move isn't a surprise, given the sensitivity to privacy within the

Auctions, page 61

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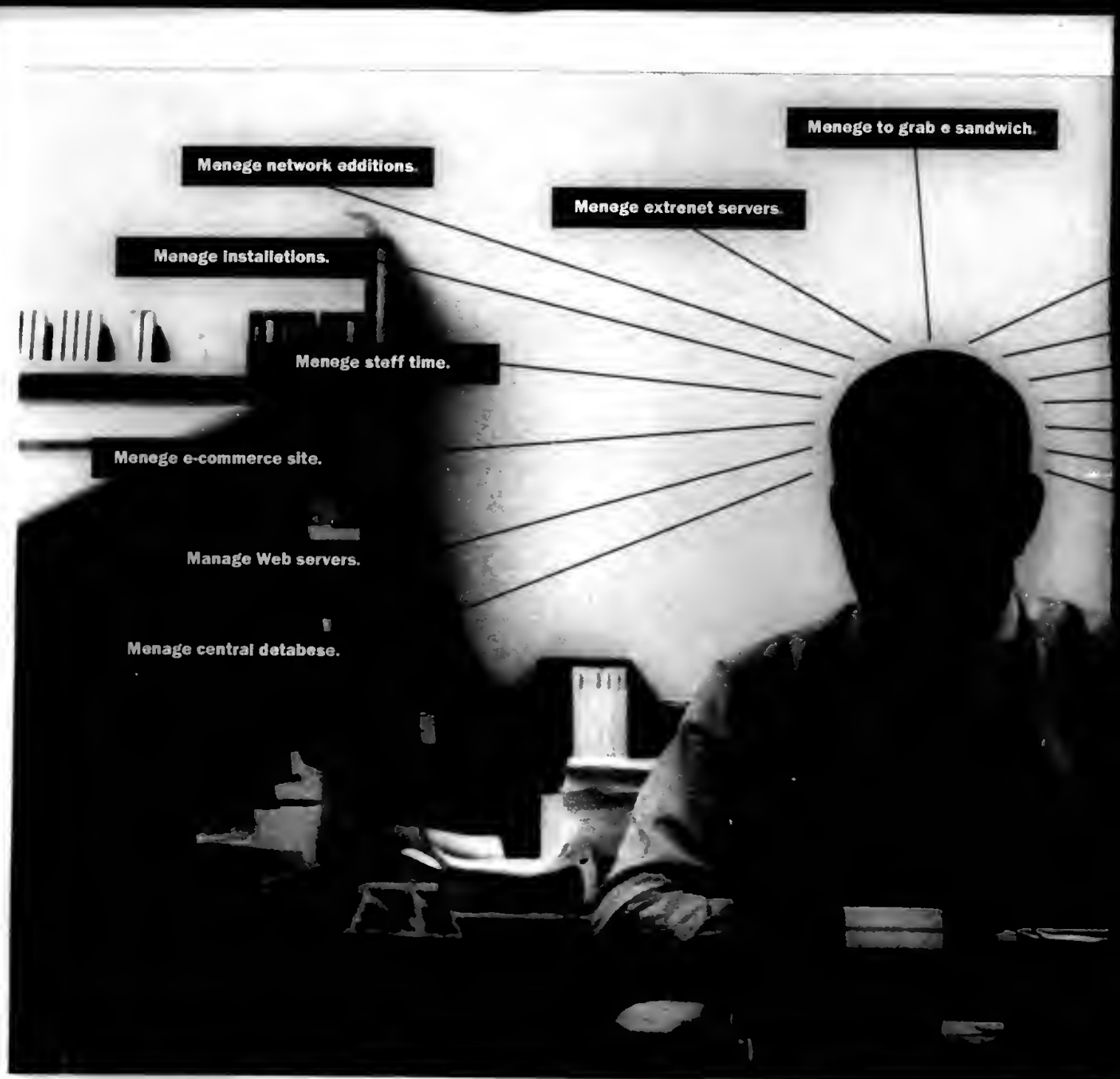

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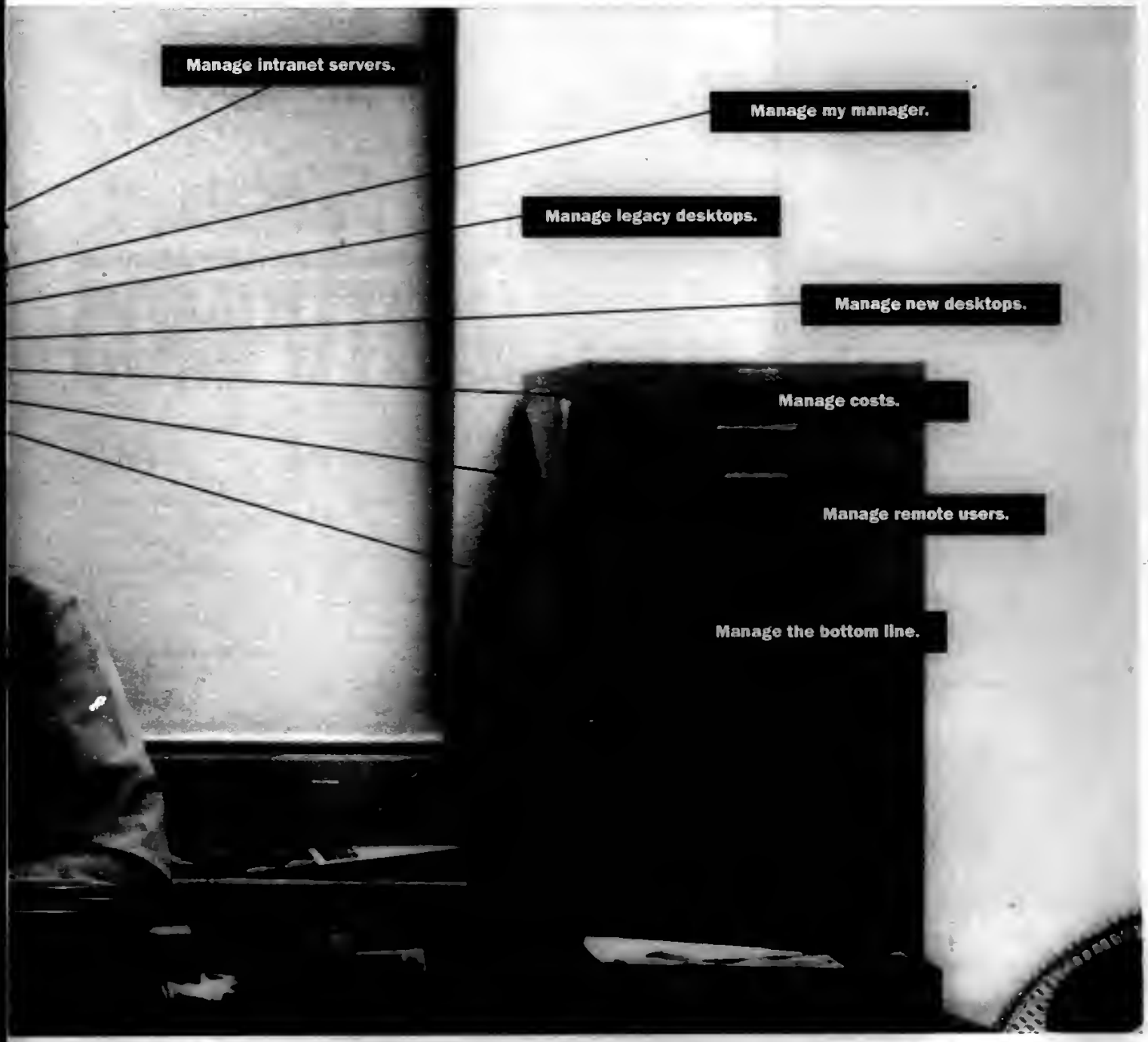


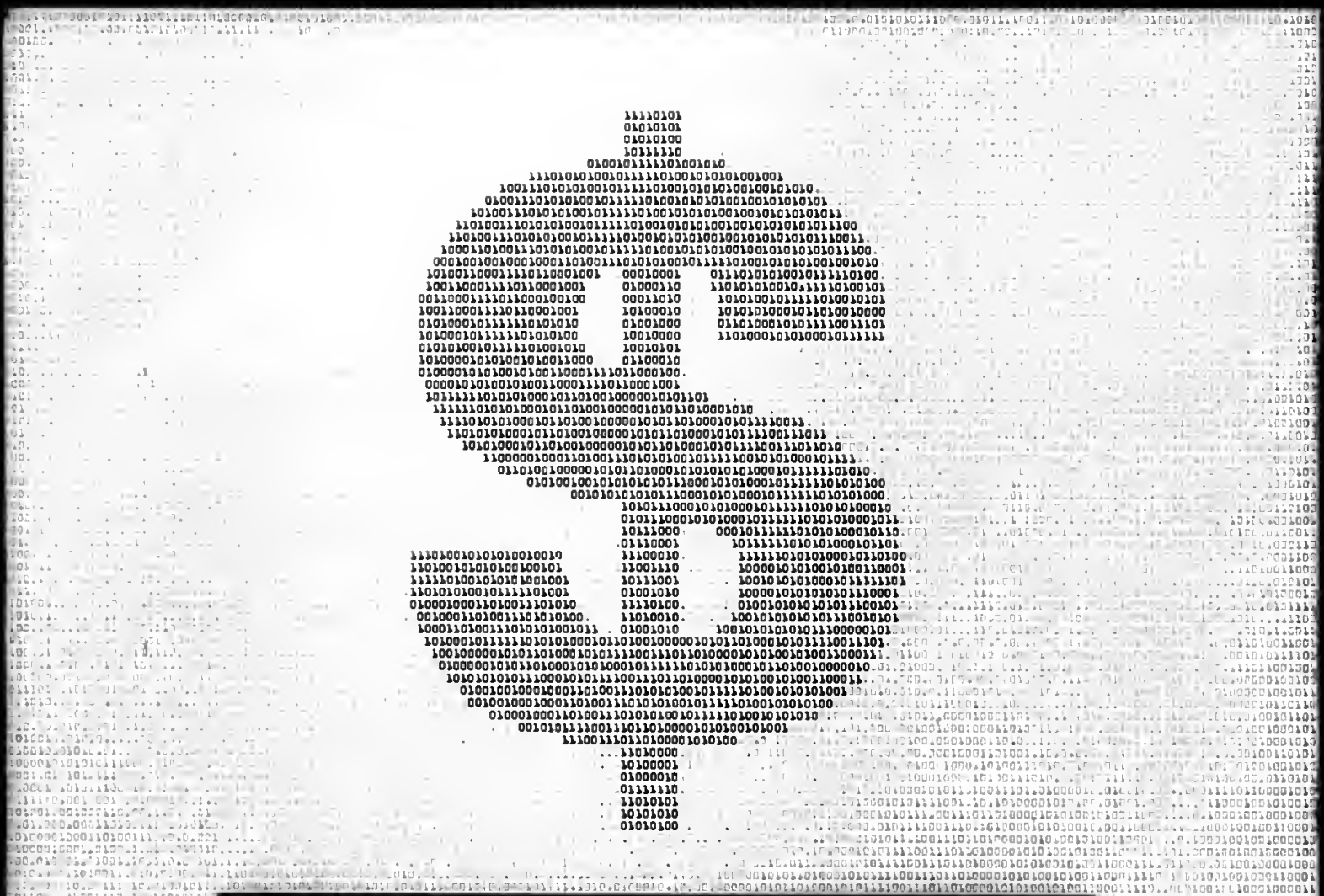
Active Directory™ service and Group Policy features in the Windows 2000 Server Family simplify management, strengthen security, and extend interoperability across both users and devices.

Application Center 2000 provides integrated tools for deployment, management, and monitoring of Web applications, making the management of Web server farms as simple as managing a single server.

Microsoft Operations Manager 2000 provides an enterprise-class event-management and performance-management tool for the Windows 2000 Server Family and Microsoft .NET Enterprise Servers.

Systems Management Server 2.0 provides comprehensive hardware and software inventory, enterprise software distribution, remote control, and software metering for Windows-based desktops and servers.

Microsoft



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CAN'T WE JUST GET ALONG?

Contractors are usually hired by senior management and then put to work with in-house IT employees. But navigating the political and cultural waters as an indepeo-deot consultant isn't easy. Contractors need to be flexible about work approaches at differeot companies and cope with wide-ranging personalities. **PAGE 54**

FREE WIRELESS PAYS OFF

Savvy users, such as Dan Judd of the Alaska Department of Transportation, are using unlicensed wireless LANs and wireless ISPs as low-cost broadband data networks. **PAGE 46**

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6 National Geographic tests a system that tracks how well service providers are complying with service-level agreements.

7 Microsoft drops Java from its XP operating system.

8 UPS plans a $100 million Bluetooth wireless LAN initiative, deploying 50,000 wireless terminals worldwide.

10 Analytical CRM is more attractive because of advances in Web, storage and business iotelligence technologies, but users still face a big price tag and other issues.

15 Novell's merger with services firm is welcomed by users.

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48 Field Report: Data analysis tools provide ways to make sense of the flood of e-commerce data generated from and about customers and suppliers.

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53 QuickStudy: Network sniffers provide protocol-level analysis of data flowing through a network, packet by packet. Learn more about these tools in this week's primer.

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22 **Maryfran Johnson** says it's a tough budget season, and IT leaders will have to focus on nuts-and-bolts savings and fast, measurable payback oo tecb spending.

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23 **David Moschella** says Microsoft's decision to allow desktop customization could be a step toward settling the antitrust case.

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Get the latest coverage on vendor earnings, reorganizations and other industry happenings on our Financial News page.
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QUESTIONS ON WIN 2K MIGRATION?

An experienced Windows 2000 consultant offers advice on creating a detailed migratioo plan and answers readers' questions in our online discussioo forum.
www.computerworld.com/community/os

10 THINGS TO KNOW ABOUT SUPPLY CHAIN OPTIMIZATION

E-Commerce Community member Marcus Ruark writes that preparation and a clear set of goals can help most businesses build a cost-effective and efficient supply chain.
www.computerworld.com/ecommerce

CRM EVOLUTION

The world of customer relationship management (CRM) software and associated "solutions" may seem confusing now, but the confusion will ultimately give way and offer users clarity — and savings. So argues E-Commerce Community member C.J. Rhoads.
www.computerworld.com/ecommerce

AT DEADLINE

Vendor May Have Helped Spread Worm

Security experts criticized the security vendor that discovered a malicious worm named Code Red that was spreading rapidly late last week. In its analysis of the worm, eEye Digital Security in Aliso Viejo, Calif., detailed information that could be used to do more damage, said some experts. (For more on this story, go to www.computerworld.com and page 14 of this issue.)

World PC Sales Dip

Global PC shipments in the second quarter were 2% lower than they were in the same period last year, marking the first year-over-year quarterly decline ever, Framingham, Mass.-based IDC reported last week. A weak U.S. economy, soft consumer demand in Europe, flat shipments to Japan and slowing growth in key Asian markets caused worldwide second-quarter PC sales dip to 29.8 million units. Shipments in the U.S. declined 8.1% from a year earlier.

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Compaq Shifts Strategy For Hardware Sales

Vendor follows rivals as it moves toward usage-based pricing model

BY JAIKUMAR VIJAYAN

COMPAQ COMPUTER Corp.'s announcement last week that it will increasingly tie its hardware sales to life cycle services and custom support addresses a growing need in the enterprise market, according to users and analysts.

Compaq is changing the way it delivers hardware — servers, PCs, handhelds and storage devices — to enterprises. Instead of selling hardware and services as separate components, the vendor will offer packages that bundle machines, services and support, said Peter Blackmore, an executive vice president at Compaq.

The focus will increasingly be on delivering computing resources as a utility that users will be able to buy on a usage basis, Blackmore said.

Compaq's rivals have led the way toward this model. Hewlett-Packard Co. earlier this month introduced a usage-based purchase option as part of a move toward a more services-led approach. Similarly, IBM has been focusing on services for some time and already earns more than one-third of its revenue from selling them.

As part of Compaq's strategy, which it calls Computing on Demand, the company has set aside $500 million to acquire an IT services firm.

A recent five-year, multimillion-dollar agreement with Blue Cross/Blue Shield of Michigan is an example of the direction in which Compaq wants to head. Compaq's global services group is providing custom, enterprisewide help desk support for more than 10,000 PCs, as well as on-site deskside software support, remedial maintenance and asset management services at Blue Cross locations statewide.

The arrangement makes for better end-user support and lowers costs while allowing Blue Cross's IT staff to focus on applications that improve customer service, said David Doney, director of IS customer service at Blue Cross.

"When we got into this thing, we wanted to have a company we could truly partner with, not just a vendor," Doney said.

Such arrangements could work with technologies that aren't very customized, said Sean Nolan, chief technology officer at Drugstore.com Inc. an online retailer based in Bellevue, Wash.

"I would see the value for stock business systems like desktops, laptops and other systems where I didn't have my own business logic intertwined," Nolan said.

But Compaq needs to flesh out the details of its plans to offer usage-based pricing options as part of this new services thrust, said Gordon Haff, an analyst at Aberdeen Group Inc. in Boston. Details such as the metrics that will be used to price usage, or even how usage will be measured, have yet to be released. ▶

Compaq's Computing on Demand

Capacity on Demand and Server on Demand: Available on AlphaServers and Himalaye servers. Will allow customers to have reserve computing power installed and ready to use when needed. No details yet on pricing.

On-Demand Storage: Private Storage Utility and Storage on Demand will allow users to "pay as you grow." No specifics available on pricing or on how this will work.

Access Utility: Prepackaged, multivendor service and support with hardware, software and flexible financing options. The service will offer four desktop/portable configurations combined with Windows 2000 Professional and XP software, help desk and installation services, asset management and technology refresh every 36 months.

NationalGeographic.com Tests SLA Service

Technology tracks service provider SLA compliance

BY JAMES COPE

NationalGeographic.com will begin trials this week on a service that measures the performance of outsourced network services, such as those from application service providers, against that promised in service-level agreements (SLA).

Scott Santulli, vice president of operations technology at NationalGeographic.com, the Web site of the National Geographic Society in Washington, said he hopes the Total Outsoureer Management service from AperServ Technologies Inc. in Vienna, Va., will help him track the performance of the service provider that operates the business-to-consumer e-commerce system for National Geographic Society products. Santulli wouldn't name the provider.

The outsourcer management service compares metrics specified in SLAs to actual performance of services, including ad serving, caching, content feeds and application performance, said Tim Keough, chief technology officer at AperServ. Performance measurements are made at intervals specified by the user, he said. AperServ's service will be available beginning this week, with prices starting at $1,500 per month.

AT A GLANCE

Outsourcer Management

- Pinpoints network problems and which outsourcer is responsible.
- Alerts customer and outsourcer when performance goes outside SLA threshold.
- Opens and tracks trouble tickets through to resolution.

If performance falls below the threshold specified in an SLA, the service issues a trouble ticket, notifies the customer and the offending service provider and then follows through with the service provider until the issue is resolved. The service also calculates credits due to customers from service providers for SLA noncompliance, according to Keough.

While other performance-measurement services, such as those offered by Keynote Systems Inc. in San Mateo, Calif., focus on measuring network delays and Web page availability, AperServ is "more about [measuring] completion of business processes, such as when application servers are down," said John McConnell, a consultant on SLAs and president and CEO of McConnell Associates in Boulder, Colo. ▶

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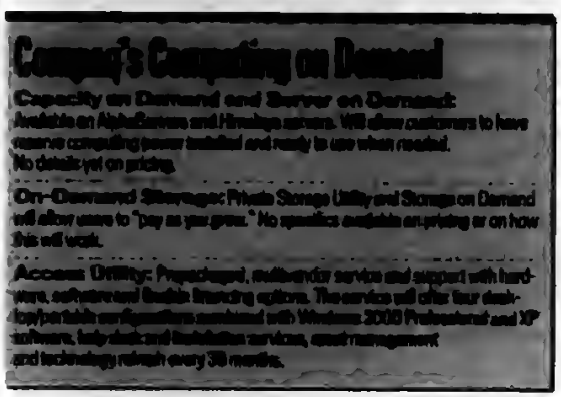

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Microsoft Excludes Java From Windows XP

Move may threaten client-side development

BY LEE COPELAND

It's official: After months of speculation, Microsoft Corp. last week confirmed that Java is being dropped from its latest operating system release, undermining Sun Microsystems Inc.'s revived effort to foster client-side Java applicatioo development.

Prerelease copies of Windows XP and its new browser, Internet Explorer 6.0, slated to ship this fall, don't include the Java Virtual Machine (JVM) that was used in Windows 2000 and Internet Explorer 5.0. PCs must have a copy of that piece of Java software to run Java applets.

"It's not really surprising," said Rob Enderle, an analyst at Giga Information Group Inc. in Cambridge, Mass. "Microsoft was very clear about what it would do after the Sun settlement, which is back away from Java."

As part of its settlement with Sun, which claimed that Microsoft had infringed on its copyright by altering Sun's Java source code, Microsoft was barred from using the latest versions of Java, including the JVM. The $20 million settlement gave Microsoft the right to use the code from 1997 — the year the lawsuit was filed — in its existing tools for the next seven years.

Microsoft Internet Explorer 5.0, for example, contained the JVM from Sun's 1.1.4 specification. Sun now offers Versioo 1.3.

Enderle said IT organizations should be cautious about using Java to develop client-side applications for Microsoft platforms. "If you're developing on Microsoft platforms, Java is risky right now," he said. "Those developers are at a disadvantage to C# developers."

C# is the new object-oriented development language that Microsoft unveiled last July. After the Sun settlement was reached, the company introduced Java User Migratioo Path to Microsoft .Net, a tool for converting applications developed in Visual J++ and existing Java code to C# and its .Net platform.

"We haven't removed support for the Java Virtual Machine," said Tony Goodhew, a product manager at Microsoft's developer division. "We just changed it from a preinstall component to an install-on-commaod component. There has been no change in functionality for end users."

Microsoft officials said the change was officially made on April 12, the date its Release Candidate 1 for Windows XP became available. The JVM will be available as a free download from Microsoft's update Web site when Windows XP ships.

Sun will make the JVM available on its Web site, said David Harrah, a Sun spokesman. He added that not having the JVM in the new browser shouldn't affect server-side development projects because most of those applications contain their own JVM. "This is less of an issue for corporate end users than consumers," said Harrah.

Peter O'Kelly, an analyst at Patricia Seybold Group Inc. in Boston, said that the omission of the JVM won't affect the success of Windows XP. In fact, it shows that Microsoft is confident it can live without Java, he added.

"Technically, it's a non-event," O'Kelly said. "Strategically, it's a major milestone because the JVM went out with a whimper." ▶

Strategic Moves

Microsoft last week said that Sun's JVM technology won't make an appearance in its new Windows XP desktop operating system.

- ▶Sun settlement restricted Microsoft to 7-year-old Version 1.1.4 of Java.
- ▶Users who want to run Java-based client-side applications will have to download the component from Microsoft's Web site.
- ▶Windows XP is slated to ship this fall.

Banks See Online Account Aggregation as Necessary Evil

Financial services firms pursue projects but are skeptical of return on investment

BY LUCAS MEARIAN
SAN FRANCISCO

First Interstate BancSystem Inc. is joining the growing pack of banks and brokerage firms that use online account aggregatioo technology, which lets customers log on to a single screen to access data from multiple financial accounts. Like many of its competitors, though, it's doing so with some trepidation.

The Billings, Mont.-based bank hopes the technology will allow it hang oo to "technology-savvy" customers who might otherwise look elsewhere, said Jonathan Scott, Internet project leader at First Interstate, during a conference here last week. But Scott said he isn't sure how the technology will be received.

"I don't know if it will be an effective tool or not," he said of the $65,000 system First Interstate plans to go live with this fall. And making it easier for online users to compare different money market accounts "scares me," Scott added.

Features You Can Bank On

Components of a good online account aggregation site include:

- **Robust back-end software** to gather customer information from sites.
- **Middleware** to standardize and provide long-term storage of customer data from various banks and brokerage houses.
- **Front-end software** with analysis tools that can be used to manipulate data for financial management and budgeting.
- **More advanced software** with which customers can create charts and graphs of their information.
- **Software that enables the firm** to keep its brand and offer its customers easy-to-use navigation tools.
- **Software that updates the Web site daily** with information such as news feeds and stock market quotes.

Account aggregation is fast becoming a basic expectation of banking customers, and companies like First Interstate are racing to install the technology — whether they like it or not. But a few are managing to hold their ground against the systems.

An executive at an online brokerage who asked not to be named said it would cost his company about $350,000 to install aggregatioo technology. That's a deal-breaker, considering that the brokerage hasn't heard customers clamoring for the capability and sees no clear promise of a return on the investment, he said.

"You're going to adopt something out of fear that others will?" he asked. "At the prices [vendors] want, fear is a bad motivator."

Conference attendees expressed concern that aggregation could make companies invisible to their customers. Others pointed out that it may help customers shop for lower fees or better interest rates. But regardless, most agreed that it's is becoming a must-have tool to recruit and retain customers and to cross-sell financial services products.

"If you're behind the curve, and someone else gets your accounts, you'll never get them back," Scott said.

First Interstate and financial industry heavyweights such as Citibank, The Chase Manhattan Corp. and Wells Fargo & Co. are just a fraction of the firms that have launched aggregation services within the past year.

But a significant problem they face is figuring out how to make their aggregation sites profitable. So far, the vast majority of banks and Internet portal services don't charge for the service and believe it won't catch on if they do.

Then there are the security concerns. By 2004, 20 million to 40 million Americans will be banking over the Internet, according to Leslie Mitchell, director of the Banking Industry Technology Secretariat, the Washington-based technology group for The Financial Services Roundtable. That sparks the need for security standards for data transfer between financial services firms.

Regardless of the kinks, Omaha-based Ameritrade Holding Corp. believes online account aggregation is so core to its business that it created a subsidiary called OnMoney.com Inc. to develop its online financial management Web site. The site went live in February last year and has since signed more than 100,000 customers to its aggregation feature. ▶

UPS to Deploy Bluetooth, Wireless LAN Network

$100M-plus project will field 50,000 terminals to 2,000 distribution hubs

BY BOB BREWIN

UNITED PARCEL Service Inc. plans to deploy the world's largest wireless LAN and short-range wireless Bluetooth network throughout its worldwide distribution hubs.

The project, which will cost slightly more than $100 million, is expected to pay for itself within 16 months by enabling package sorters at the hubs to work more efficiently and by standardizing the company on single terminals and network systems, said David Salzman, UPS's program manager for information services.

Salzman said he believes that providing package sorters with a cordless ring scanner — as well as moving the terminal from the wrist to the hip — should increase worker productivity. The entire project is expected to result in a payoff of some $13.7 million per year over a five-year period.

Atlanta-based UPS plans to start testing the new Emerald scanners at its mammoth square-mile capacity distribution center in Chicago in September. That will be followed by a rollout next year of some 50,000 Motorola Inc. terminals to its 2,000 worldwide distribution centers, which will be equipped with industry-standard 802.11b wireless LANs, said Salzman.

The integration of a wireless Bluetooth ring scanner into the terminals used by package sorters in the UPS hubs "is a very big deal to us [because] it eliminates the cord between the scanner and the terminal. The primary use of Bluetooth is for cord replacement, and [sorting packages on belts] is a perfect example of where cords are a big problem," Salzman said.

WHAT IT IS

The Largest Wireless LAN

UPS's planned wireless LAN and short-range wireless Bluetooth network:

- **Replaces terminals** used by package sorters at shipping hubs and other facilities worldwide with combined Bluetooth/wireless LAN ring scanners and hip-mounted devices developed by Motorola that run on the Windows CE operating system.
- **Includes installation of 802.11b wireless LANS** from Symbol Technology at 2,000 hubs worldwide, which will require installation of up to 15,000 wireless LAN access points. UPS describes this as the largest wireless LAN deployment in the world.
- **Will replace seven scanning applications with one**, improving information flow and decreasing the cost of system ownership.
- **Will cost** slightly more than $100 million.

He added that the new Windows CE-based terminals developed by Motorola would replace a wide variety of older terminals running on seven different operating systems.

Salzman said the Emerald terminals stand out as the first successful marriage of Bluetooth and 802.11b wireless LAN technology in one device, a difficult technical challenge because both operate in the unlicensed 2.4-GHz frequency band. Salzman credited Symbol Technologies Inc. in Holtsville, N.Y., with resolving the potential signal-conflict problems.

Barry Isbenner, vice president for worldwide logistics at Symbol, said the company has resolved any potential 802.11b/Bluetooth signal conflicts "with intelligent software in the 802.11b access point that manages the traffic flow by telling the 802.11b radio to be quiet when Bluetooth is communicating."

Symbol will provide UPS with the wireless ring scanners, Isbenner said. The company will also serve as the wireless LAN provider, according to Saltzman. Isbenner predicted that Symbol could end up installing up to 15,000 access points at UPS hubs around the world.

Ken Dulaney, an analyst at Stamford, Conn.-based Gartner Inc., called UPS's decision to standardize its portable terminals on Windows CE "a good move," adding that Gartner predicts that 60% of all industrial handhelds will be shipped with Windows CE by next year.

The Competition

UPS isn't alone. Ken Pasley, director of wireless systems development at rival FedEx Corp. in Memphis, said his company started a worldwide 802.11b LAN deployment earlier this year.

The FedEx system provides coverage inside and outside the company's distribution centers and sorting facilities, thus allowing workers to use wireless technology on a hub ramp to scan containers as they come off a truck, Pasley said.

Like UPS, FedEx is also eager to integrate Bluetooth into its hub infrastructure in order to eliminate possible cord snags by sorters working on a package belt.

Pasley added that FedEx has started to install wireless LANs in all of its fleet of 180-plus wide-bodied aircraft, allowing rapid transfer of engineering and maintenance data when the aircraft are parked on the tarmac. The company would like to win Federal Aviation Administration approval to use the aircraft wireless LANs just after taxiing.

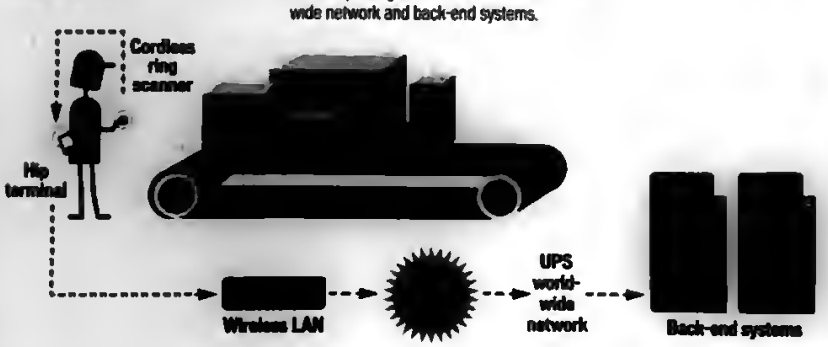
"We've asked Symbol to give us the first Bluetooth scanning devices as they come off the line," Pasley said, but UPS appears to have the inside track. ▶

UPS Emerald Scanning Terminal

▶A package sorter will wear a cordless ring scanner to capture data from packages. The ring scanner uses Bluetooth technology to send package data to a Windows CE-based terminal worn on the hip.

▶The hip terminal receives data from the ring scanner and then retransmits information via an 802.11b wireless LAN to antennas hooked into wired LANs in the hub. These wired LANs transfer package data to UPS's worldwide network and back-end systems.

▶Emerald is the first device to combine Bluetooth and 802.11b wireless LAN technology without any conflicts between the two systems, which both operate in the 2.4-GHz frequency band.



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- Redundant, hot-swappable and scalable components to **allow growth** as well as **service without interruption.**
- **Instant notification of critical power/UPS issues.**
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- Ability to keep track of and **maintain health of power protection systems** across the WAN, over time.

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The new Symmetra RM puts the high availability of the proven and patented Symmetra® Power Array™ technology in a rack-mountable form. Through the included Web/SNMP Management Card, you can monitor and configure your APC Symmetra RM to shut down and reboot your systems, receive e-mail alerts and view the event log

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APC monitors all UPS parameters, tailored to your desired response. Regular UPS parameter and event reports are issued with event frequency, duration, and resolution, offering immediate enhancements to your investment.

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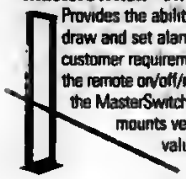

Provides the ability to monitor the current draw and set alarm thresholds, based on customer requirements, while still providing the remote on/off/reboot capabilities found in the MasterSwitch series. In addition, it mounts vertically, requiring zero U of valuable rack space.

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Works with your APC Smart-UPS® or Matrix-UPS® to monitor ambient temperature, humidity and other environmental conditions

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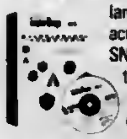

An invaluable software tool for anyone with a large number of APC UPSs spread across a wide geographic area. Via SNMP-enabled APC UPSs, schedule the software to gather information from the UPSs, then select any one of the eleven predefined reports

Other APC products for the VoIP/Rack environment:

- **KVM Switches** provide one centralized control point for up to 64 servers
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- **Cable Interface Kits** provide direct communication between UPSs and desktops, workstations and servers
- **2-Post Racks / 4-Post Open Frame Racks**

Tivoli SOLARIS HP OpenView

Symmetra RM is easily manageable with the industry-leading network platforms.

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BRIEFS

64-bit ProLiant Ships

Compaq Computer Corp. said it has started shipping the ProLiant DL580/64, its first 64-bit industry-standard server based on Intel Corp.'s Itanium processor. Pricing starts at $23,000 for a dual-processor 1GB system. The ProLiant DL580/64 is being marketed to customers with Internet and business-critical applications.

Calif. Moves Toward Privacy Standard

California lawmakers last week moved closer to overriding the financial privacy provisions set in federal law with a stricter state statute. Unlike the federal law, the Financial Information Privacy Act gives consumers the ability to opt out of confidential data sharing. It also requires an "opt-in" option for firms that want to sell customer data or share it with third parties. The bill has already won state Senate approval but still faces more committee reviews and approvals.

Toshiba Unveils Windows-Based PDA

Tokyo-based Toshiba Corp. entered the competitive market for personal digital assistants (PDA) last week, unveiling what it claims to be the world's smallest and lightest Pocket PC device. The Genio e550 is due to hit U.S. shelves by the end of the year. Pricing for the product is expected to be about $581 in Japan, where it's scheduled for release next month.

Short Takes

Ottawa-based software vendor COREL CORP. is acquiring Dallas-based business graphics software vendor MICROGRAFX INC. in a $32 million stock swap. . . . SPOTFIRE INC. in Somerville, Mass., today will announce DecisionSite 6.2, its data analytics software, which has added XML-based configuration tools and other features.

Cost, Integration Top Analytical CRM Issues

Projects are challenging, but still increase

BY MARC L. SONGINI

Finning themselves sweating in the current gloomy economic climate, companies are especially eager to harness their wild customer relationship management (CRM) data to maximize their marketing dollars. But there are plenty of obstacles, say users and analysts.

Although advances in Web, storage and business intelligence technologies make analytic CRM systems more attractive than ever, users still face a big upfront investment, as well as scalability and data integration issues.

IDC in Framingham, Mass., predicts that spending on CRM analytic applications will surpass $2.3 billion by 2004, a 51% increase since 1999. But users and analysts agree that the devil is in the data.

"The biggest challenge is that data is in silos, so it takes a lot of effort to take all that and get a single 360-degree view of the customer," said Bill Lepler, vice president of CRM at The Limited Inc., a clothing retailer in Columbus, Ohio.

The company, whose stores include Express and Victoria's Secret, has started doing marketing pilot tests using analytical software from Cary, N.C.-based SAS Institute Inc. The application helped The Limited target 100,000 of the best potential customers for a recent upselling and cross-selling campaign, resulting in a 400% return on investment in the marketing campaign.

Fighting over the question of who owns the data is another issue, said Kaenan Hertz, director of CRM and digital intelligence at the Reston, Va.-based Student Loan Marketing Association, or Sallie Mae. The firm uses a mixed set of applications from vendors such as E.piphany Inc., in Santa Clara, Calif., to cross-sell to customers. "People who are responsible for certain databases don't want other people accessing data from them," said Hertz.

LEPLER: Data silos present the biggest hurdle in CRM.

The cost of the applications keeps some users on the fence. According to SAS, $500,000 is about average for a full analytical CRM package.

"One of the biggest fears is that it is a very expensive proposition, and you have to prove there is a return on that kind of expenditure," said Jim Sofranko, the executive director of marketing and new business development at Chicago Blackhawks Hockey Team Inc. It's hard to craft a return on investment on analytical CRM, he said, but the franchise is interested in pursuing it anyway.

The Internet has made it relatively cheap to run marketing campaigns via e-mail and to leverage disparate pieces of CRM data gathered through the Internet and other channels into one place for analysis, said Jeff Hunter, a CRM director at General Mills Inc., a food producer in Golden Valley, Minn.

But he said there are limitations. "We have to approach this in a particular way, as we're a consumer packaged food goods company and no database covers all customers," Hunter said.

General Mills this year plans to run analytical CRM pilots using its SAS business intelligence application.

MOREONLINE

For more information on CRM, visit our Data Management Resource Center at www.computerworld.com/datacenter.

Oracle Boosts Content Management

Added Oracle9i features focus on data accessibility

BY DAN VERTON

Oracle Corp. last week announced a oew consulting group and enhancements to its Oracle9i database and application server software aimed at improving users' ability to search for and manage a vast assortment of data types stored throughout their enterprises.

The company's Collaborative Content Management services will provide Oracle9i users with support for XML data and file-based network protocols such as Web Distributed Authoring and Versioning. Oracle database rivals IBM and Microsoft Corp. also offer XML and content management software with their database products.

The new services also include an enhanced version of the Oracle Internet File System (IFS), which provides sophisticated XML tagging and improves customers' ability to search for and manage data in productivity applications like Word documents, spreadsheets and presentations.

The company will begin rolling out the content management services later this year through its trading partners and its online store, said Bob Shimp, an Oracle marketing executive.

Users lauded the addition of XML support and the expanded content management features but said they aren't sure how quickly those features would be adopted. The addition of XML and other technologies "shows the innovation of Oracle to adapt the product to customer needs," according to Rich Niemiec, president of the International Oracle Users Group-Americas, a Chicago-based organization that represents Oracle database users.

However, as with any new technology, "this is an area that is still not mature and will probably change somewhat before it is accepted industry-wide," he said.

"Being able to handle all data types is essential to the Oracle database story," said James Governor, an analyst at Illuminata Inc. in Nashua, N.H. "If you buy into Oracle's [application] consolidation message [purchasing all of your software from Oracle], then this is just something that they have to do."

However, there have been performance issues with IFS and its search and indexing capabilities, Governor said.

A new IFS feature called UltraSearch will boost its search and indexing functionality, Shimp said.

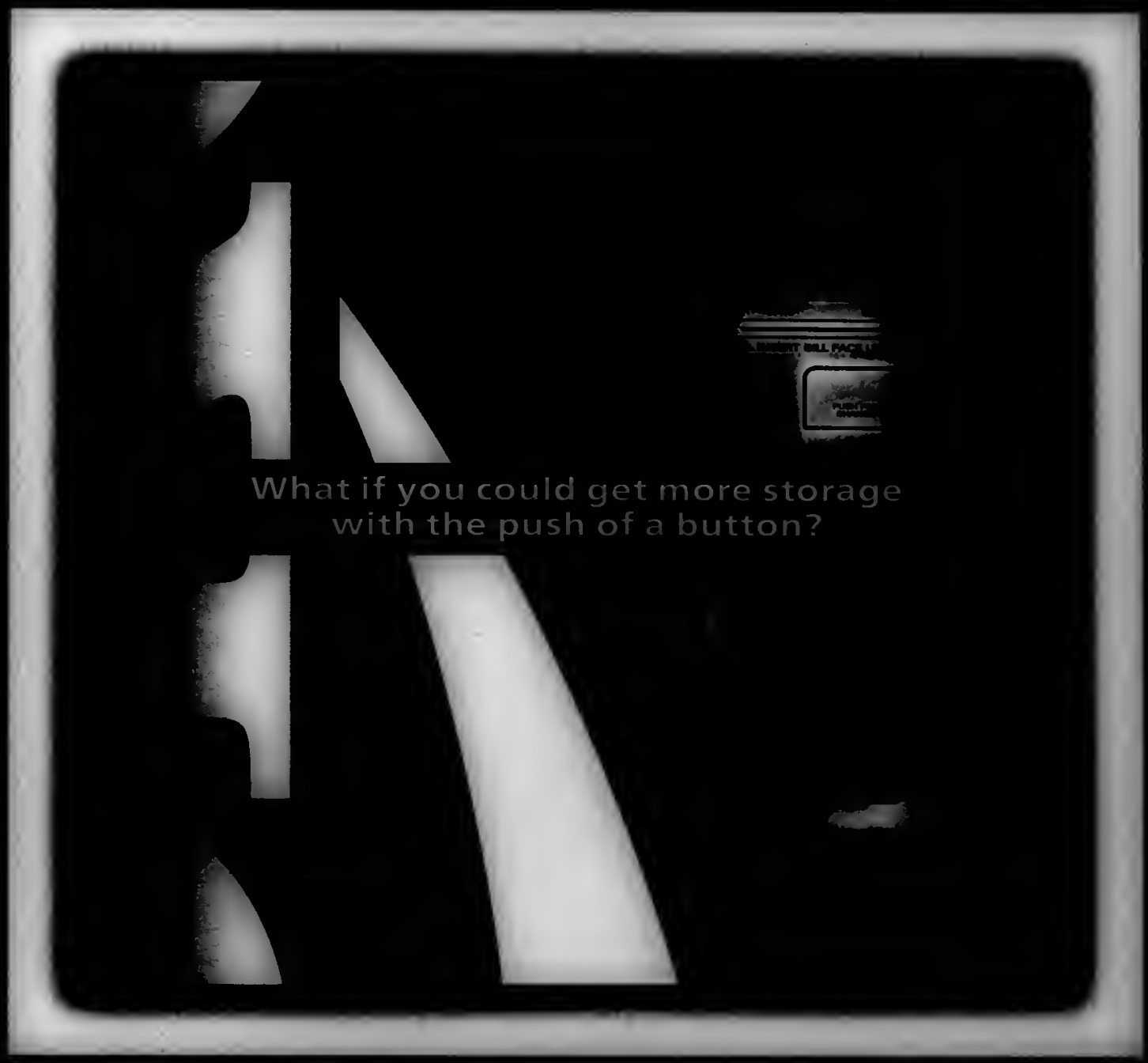
"We have been working on all fronts to improve management, storage and searching capabilities," he said.

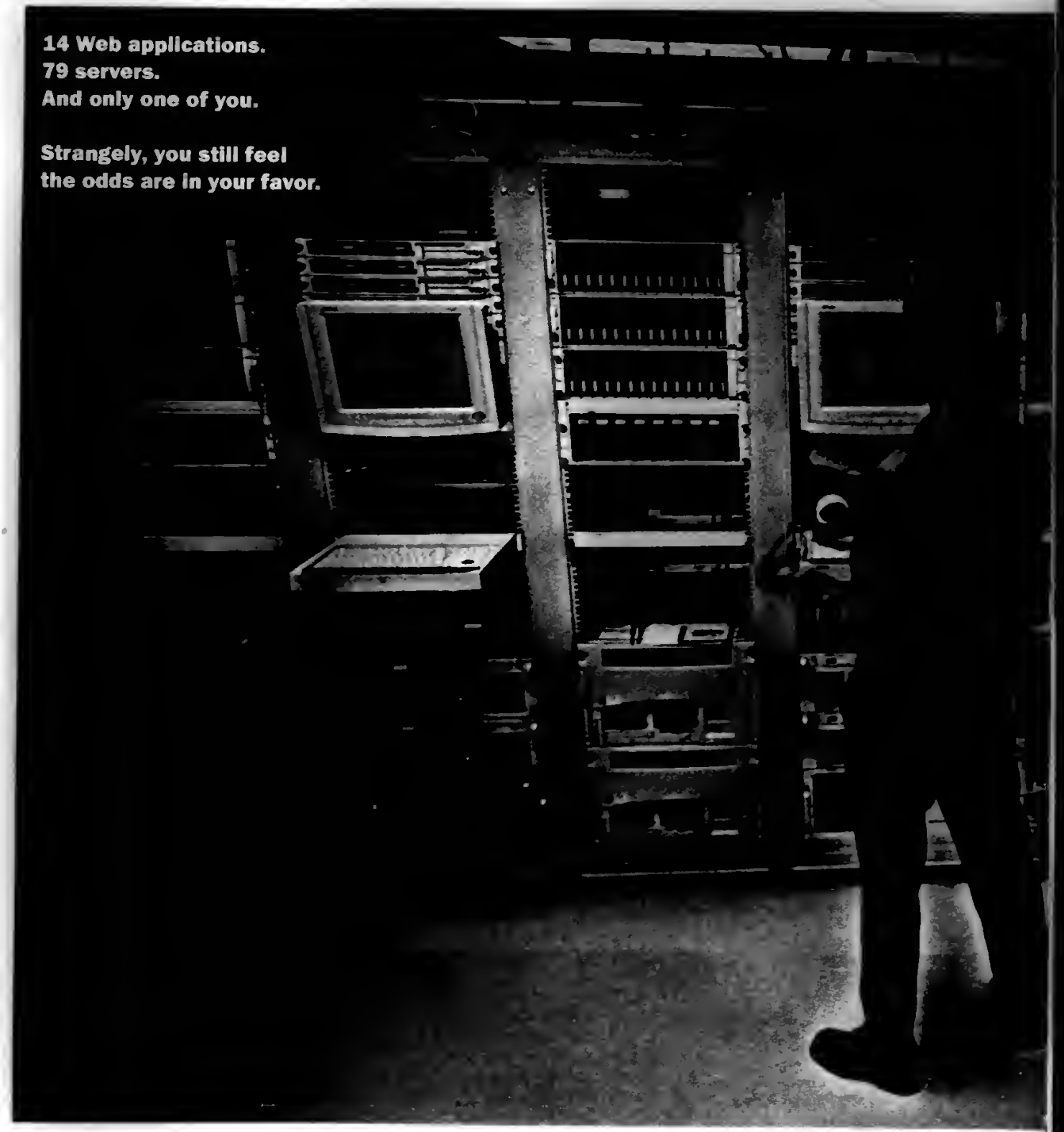
JUST THE FACTS

Got Data?

Oracle9i content management improvements include:

- Enhanced Oracle IFS for sophisticated XML tagging of data
- Oracle Text for advanced content-based queries on 150-plus file formats in more than 57 languages
- XML file search capability based on content subject


What if you could get more storage
with the push of a button?



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Web server farms have always been known for providing high application availability in a cost-efficient manner. Unfortunately, in the past they have also been known for manageability headaches. But no more: Microsoft Application Center 2000 now makes managing Web applications and groups of Web servers as simple as managing a single server.

Part of the flexible Microsoft .NET Enterprise Server family, Application Center 2000 is built to be the heart of a "scale-out" infrastructure model. "Scaling out" is a flexible approach to scalability that involves deploying Web applications across multiple servers to distribute and handle the workload.

Application Center 2000 makes scaling out easier, with unified Web application and server-farm management that simplifies tasks like cluster management and application deployment. Plus, it makes it easy to achieve capacity on demand through automatic replication of applications when you add servers or make changes to existing applications. But simplicity is not all you get: Application Center 2000 offers increased uptime through dynamic load balancing and by having no single point of failure.

MARKET FACT

"The scalability benefits offered by Application Center made it possible to migrate to a distributed Windows® platform. Application Center gives us on-demand scalability and is a powerful tool for managing Windows 2000–based Web server farms."
—Mike Bodnar, Production Services Manager, Terra Lycos

In sum, Application Center 2000 removes the hassle of managing multiple servers separately, while providing the availability and cost-efficiency of a "scale-out" model. Find out how to keep the odds in your favor: visit **microsoft.com/applicationcenter** Software for the Agile Business.

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BRIEFS

Microsoft Seeks New Hearing on IE Ruling

Microsoft Corp. last week asked the U.S. Court of Appeals in Washington to reconsider its recent ruling that the software vendor violated antitrust laws by tying its Internet Explorer (IE) browser to Windows. Claiming that "critical evidence was overlooked or misinterpreted," the company requested a new hearing on the browser question.

Inktomi Targets Enterprise Info

Inktomi Corp. in Foster City, Calif., has announced four products aimed at the publishing, distribution, retrieval and management of information inside corporations. One product, TrafficCore, is based on a new protocol developed by Inktomi to identify and route content across IP networks based on the type of application.

Charges Dismissed Against Y2k Vendor

A federal court has dismissed fraud charges against Accelr8 Technology Corp. and three of its executives and settled a lawsuit filed by the Securities and Exchange Commission (SEC) in November 1999. In the lawsuit, the SEC alleged that Denver-based Accelr8 and its officers had misrepresented the capabilities of the company's Y2k bug-repair tool and overstated revenue.

Apple Upgrades Macs

Kicking off last week's Macworld show in New York, Apple Computer Inc. announced upgrades to its iMac and Power Mac G4 product lines and pledged that Mac OS X Version 10.1 will ship in September. The announcements came shortly after Apple's quarterly earnings report, which showed a $61 million profit in the quarter ended June 30, despite revenue that was down almost 20% from the year-ago quarter, to $1.4 billion.

IT Spending Still on the Rise, But Not for As Many Users

Survey shows spending will jump 10%, but 44% of respondents expect no increase

BY TODD R. WEISS

DESPITE the sluggish economy and the IT buying slowdown cited by numerous vendors, new surveys show that corporate spending on technology still appears to be going up, on average, this year. But that's certainly not what many users are planning.

Stamford, Conn.-based Gartner Inc. last week said preliminary results from a survey of 589 large companies indicate that IT spending on the whole will increase by 10% this year. But while just slightly more than half of the respondents said their budgets are growing, more than 40% said their spending will be flat or down, according to Gartner (see chart).

Hannaford Bros. Co., a grocery store chain based in Scarborough, Maine, is one company that's not cutting back. Instead, Hannaford CIO Bill Homa said he's increasiog IT capital equipment purchases by 15% to 20% over last year's in an attempt to take advantage of the financial misfortunes of technology vendors.

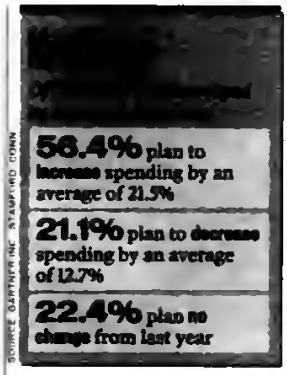
For Homa, the tight ecooomy has resulted in sales-hungry vendors that are happy to give discounts and sweeteo deals — leading him to accelerate buying plans fur a variety of products. "In some cases, it's a fire sale," he said. "The bargains are actually justifying the early investments."

Among the items Hannaford has been purchasing are servers, routers, storage devices and applications needed to support the company's supply chain system. "There's huge returns on this spending, so it's easy to justify, even in a down economy," Homa said.

The situation is different at Carrier Corp., a Farmington, Conn.-based maker of air conditioning aod refrigeration equipment. CIO Jagdish Dalal said Carrier's total IT spending will be down slighily this year, though he wouldn't provide details. The company is also focusing on projects that will generate better returns on investment, he added.

"The smarter companies will look at [ROI] in this economy," Dalal said. For example, Carrier is cutting its spending on mainframe applications, some of which date back 20 years and have required continual upgrading. Some are being outsourced, Dalal said, while others are being replaced with newer applications in order to save money and increase productivity.

Atlanta-based Delta Air Lines Inc. is keeping its IT spending at last year's levels, said spokeswoman Katie Connell. "We don't see IT as a variable cost," she said. But while oo spending cuts are planned, the sluggish ecooomy has prompted the airline to emphasize IT projects that are expected to produce rapid financial gains or efficiency benefits.



Barbara Gomolski, an analyst at Gartner, said many users are showing "greater scrutiny, but not cutting top-line spending" on IT. Other researchers are also still predicting overall growth in spending. A survey of CIOs at 50 U.S. firms by New York-based Merrill Lynch & Co. pointed to an average increase of 6%, though that was down from an earlier projection of 9%. IDC in Framingham, Mass., projects that worldwide IT spending will rise 9% this year.

At Sears, Roebuck and Co. in Hoffman Estates, Ill., IT spending could total 3% more this year than it did last year, but that's not a certainty at this point, said spokeswoman Jao Drummond. The expected increase could disappear by December, if reduced business at its stores leads the retailer to make more cost-cutting moves, she said.

"We are definitely looking at spending less in the second half [of the year] than in the first half," Drummood said. "It's actually kind of moving around, and we're watching it very closely."

New Worm Called Code Red Exploits Windows NT Flaw

BY SUMNER LEMON

A malicious worm named Code Red that exploits a buffer overflow vulnerability in certain configurations of Microsoft Corp.'s Windows NT and Windows 2000 operating systems has spread rapidly over the Internet, according to the CERT Coordinatioo Center at Carnegie Mellon University in Pittsburgh. As of late last week, as many as 225,000 computers had been affected, CERT said.

Code Red exploits a buffer overflow io the Microsoft Internet Informatioo Server (IIS) Indexing Service Dynamic Link Library (DLL), CERT said. The vulnerability is preseot in most versions of IIS 4.0 and IIS 5.0 and allows an attacker to gain complete control of a targeted system. The vulnerability was announced in June.

Code Red defaces all of the Web pages served by the affected host with the message, "HELLO! Welcome to www.worm.coml Hacked By Chinese!"

In addition to Web defacement, the worm causes a degradation in overall system performance as it scans other hosts in an attempt to propagate itself, according to CERT.

Code Red can also initiate severe denial-of-service attacks as it scans noncompromised systems and networks for the Indexing Service DLL vulnerability, CERT said.

The White House Web site has been the target of a denial-of-service attack initiated by the Code Red worm, according to the National Iofrastructure Protection Center (NIPC), which is run by the FBI.

The NIPC called the Indexing Service DLL vulnerability a "serious threat" and said it expects to see other attacks exploit the security flaw.

Microsoft has developed a security patch to address the vulnerability.

Lemon writes for the IDG News Service in Taipei.

In Slumping B2B Market, Ariba Benefits From Early Retreat; Others Take Losses

Commerce One, i2 stick with public marketplaces but probably face layoffs

BY MICHAEL MEEHAN

When the Great B2B Drought of 2001 hit this winter, Ariba Inc. was the first vendor to start drying up.

The company proclaimed that public marketplaces were dead and slashed its workforce by one-third in April, instead focusing on its core online procurement business.

But damage to the business-to-business vendor crop turned out to be even more extensive elsewhere. Sunnyvale, Calif.-based Ariba last week reported that it wasn't nearly as hard-hit as some of its competitors.

Ariba's reveoue dropped to $85.3 million for the most recent quarter, from $90.7 million in the previous quarter, yet its net loss of $273.5 million was relatively small compared with the losses its competitors reported.

Ariba Chairman Keith Krach, who stepped in as interim CEO after Larry Muller suddenly left the company last week, said he believes customers no longer want to hear about the panacea of business-to-business commerce. He said Ariba will focus on improving supplier-discovery features in the next release of its Ariba Sourcing software later this quarter, which could make it possible for companies to develop direct goods procuremeot in additioo to the curreot indirect sourcing operations.

Analysts said sourcing is critical if companies want to take the next step from the online purchasing of office supplies and travel to the procurement of materials that go directly into the goods they sell.

"You're not only looking at cost savings but [at] getting materials faster and improving your supply chain," said Shawn Willett, an analyst at Current Analysis Inc. in Sterling, Va. "Ultimately, that's where B2B oeeds to go."

But Karen Peterson, an analyst at Gartner Inc. in Stamford, Conn., said Ariba faces a significant hurdle if it wishes to make that leap.

"They haven't yet proven they have a solution to do that in direct goods," Peterson said.

Ariba has also thrown itself into custom jobs for large customers like 3M Co., Amtrak and the U.S. Department of Defense.

Pleasanton, Calif.-based Commerce One Inc. and Dallas-based i2 Technologies Inc., on the other hand, didn't run for cover as quickly as Ariba and saw their revenues drop dramatically in the quarter.

Commerce One's quarterly revenue dropped to $101.3 million in the second quarter, from $170.3 million in the first quarter, and its net loss topped $2 billion.

Meanwbile, i2's revenue dropped from $357 million in the first quarter to $241 million in the second quarter, and the company reported a net loss of $861 million.

Commerce One and i2 have vowed not to retreat from public marketplaces and grander business-to-business initiatives. Analysts didn't fault them for holding their ground, but they said the companies will have to make major personnel cuts to survive the coming quarters.

MOREONLINE
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AT A GLANCE

B2B Market Positioning

Here's what the big B2B vendors are pushing during the economic slowdown:

Ariba: Basic procurement of goods and services, beefed-up tools to hunt for new suppliers

Commerce One: Public and private marketplaces; joint offerings with SAP

i2 Technologies: Supplier and content management tools; supply chain integration

During their earnings conference calls, all three vendors said tbe current slump is worse than expected and that buyers are growing ever more reluctant to make purchases.

"It's actually a flight to quality," Peterson said. "It's picking a vendor you think is going to be around for the long term, and that's not to easy to do these days."

Users, Analysts Upbeat About Novell Merger

BY MARC L. SONDINI

This month, Novell Inc. overcame the last hurdle in its acquisition of Cambridge Technology Partners Inc. (CTP), and users and analysts are upbeat that the merger will boost the sagging fortunes of both companies.

In particular, they said they hope the merger will increase Novell's range of services, result in offerings that have a combined business and technical focus, and beef up the company's marketing savvy — an area in which the networking and server software company has been especially lacking.

Observers also expressed confidence in the new management team, which will he led by the CEO of CTP, Jack Messman. Shareholders of the Cambridge, Mass.-based services firm approved the merger two weeks ago.

Miami-based transportation company Hellmann Worldwide Logistics uses both the NetWare server operating system and the Novell Directory Services networking products.

"The Cambridge Technology partnership consultancy brings Novell to critical mass on the services front right away," said Chip DiComo, manager of global information services at Hellmann. "I just hope that the products don't suffer."

Mike Richichi, an IT director at Drew University in Madison, N.J., said his biggest hope is that through the merger, Novell will get more products out the door and ensure its owo long-term survival.

"The perception has been that Novell is not all there and been seen as not viable, and I don't want to see [it] looked down [at] now as it is sometimes," said Richichi. The university uses NetWare and a variety of Novell's networking products, including its ZENWorks management tool.

Richichi alao said he hopes the new consulting arm will assemble full, multivendor business packages, not just those with Novell technology.

Analysts said the combination of services and technology is key to Novell's success.

"If Novell can deliver on the potential synergy between its technology and Cambridge Tecbnology Partners' business-focused services, the company could become as important to enterprise networks today and tomorrow as it was to local-area computing networks in the 1980s," said Michael Dortch, an analyst at Robert Frances Group Inc. in Westport, Conn.

Novell must move quickly and present one face to the world to prevent any doubts in the minds of customers, said Dortch. The company should also blow its own born about customer successes, he said.

Novell's technology for directory services is probably better than the directory software from market leader Microsoft Corp., but Novell will have a hard time winning the marketing battle against Microsoft, said Wagner Rios, an analyst at Boston-based AMR Research Inc.

However, the merger and reorganization may give Novell the marketing savvy it needs to "break the Microsoft stranglehold on the market," he said.

AT A GLANCE

Changes At the Top

With the acquisition of CTP, Novell's executive team is changing.

CHAIRMAN: Novell CEO and President Eric Schmidt

CEO AND PRESIDENT: CTP CEO Jack Messman

SNAPSHOT

Rocky Road

Most of the following vendors last week reported lower revenues and profits than they did a year ago.

COMPANY	REVENUE	% CHANGE	PROFIT (LOSS)	% CHANGE
IBM	$21.6B	-5%	$2B	5%
Microsoft	$8.58B	13%	$66M	-97%
Intel	$6.3B	-24%	$196M	-94%
Sun	$4B	-20%	($86M)	-112%
SAP	$1.6B	24%	$179M	78%
EMC	$2B	-6%	$100M	-76%
Siebel	$550M	38%	$77M	56%

Figures are for the quarter ended June 30. Percentage change is from the same period last year

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Microsoft

functionality and solve a specific problem?" said Jerry Miller, CIO at Sears, Roebuck and Co. in Hoffman Estates, Ill. "We're constantly pushing back on our vendors to understand our business so that they can bring solutions to us."

For instance, Miller said that Microsoft has talked to Sears about products that fit into his company's point-of-sale applications. "OK, but what are they going to solve for us?" he said.

Whether or not the new corporate sales strategy will make Miller more receptive to Microsoft enterprise products remains to be seen. "Typically, I think many times, we do not think of Microsoft when we probably should because we just don't think they have products that can scale to the size of Sears," he said.

David Annis, group senior vice president and CIO at The Hartford Financial Services Group Inc. in Hartford, Conn., noted that "Microsoft has been developing more products targeted at corporate customers, and for that matter, they're more interested in getting into corporate data centers with larger solutions. And our expectation would be integrated sales, service and support."

Rob Enderle, an analyst at Cambridge, Mass.-based Giga Information Group Inc. who advised Microsoft on the issue, said the new "solutions" approach addresses one of the biggest problems the company has faced when trying to sell into the back office.

"I think they should have done it years ago," Enderle said. "This is something that some of the more traditional firms like IBM know and have built into their process for decades."

'The Whole Kit'

Tom Bittman, an analyst at Gartner Inc. in Stamford, Conn., said he agreed that Microsoft's focus on building a relationship and selling the "whole kit bag" of products and services makes sense. "Let's see how they execute," Bittman said, noting that he's been impressed by the "real changes" he has seen Microsoft make during the past year where the enterprise is concerned.

Stevens said Microsoft initially will focus its new model of integrated solutions selling and services on its top 2,000 corporate accounts. Under the system, an account manager equipped with more dedicated resources than in the past will serve as the single point of contact for an enterprise customer, planning business projects and making sure the right specialists are brought in to work on technical road maps, architecture and software deployment, he said.

Another key change is that Microsoft will make more sales calls to business decision-makers, such as CEOs, chief financial officers or chief operating officers, in addition to the IT community, Stevens said. "But the majority is still with IT, and much of it is working with both together," he added.

For clothing retailer Gap Inc. in San Francisco, that approach has already worked well. High-level personnel from each organization have been in contact, "and this helps educate Gap management and enables Gap to get visibility at senior levels at Microsoft," said CIO Ken Harris.

But some corporate users stressed that IT must remain part of the picture.

"We think they should talk to both when there's a meaningful reason to do so. [But] if this means going around the information technology providers to get to the business leaders, I think it's a bad idea," said Annis.

"For us, technology strategy is part of business strategy, and where we make technology investments, and how we implement things is very much a collaborative decision," he said.

Miller said Microsoft is "not going to get very far" if it tries selling to business decision-makers at Sears. "Software decisions are made by the IT organization," he said. "Now we make those decisions in concert with the business, but we also have to look at how the software's going to interface with all the other applications we have here. That's why the final say for any software selection is IT's responsibility."

Continued from page 1

Delta

a series of homegrown applications. Other aviation companies that have signed on with Xelus include Alaska Airlines Inc. in Seattle and Aviall Inc., an aircraft parts distributor in Dallas.

The hardest part of British Airways' implementations has been connecting Xelus to legacy systems, said David Richardson, general manager of engineering supplies at the London-based airline. When R/3 is up and running as expected next fall, the company will decide whether it wants to keep the Xelus tool or swap it out for an SAP product, he said.

While Delta has no immediate plans to migrate its R/3 systems to mySAP.com, Taylor said, "there's a good probability" that the airline might eventually move to the next-generation collaborative applications from SAP.

Delta plans to flip the switch on the Xelus application next summer, along with SAP's warehouse and inventory-management software and its demand-planning tools, according to Taylor. He wouldn't comment on the cost of the project or its anticipated return on investment.

Taylor said the Xelus software should be especially useful at airports such as the one in Jacksonville, Fla. That's a high-priority location for Delta because of the heavy traffic there, but Delta doesn't have sufficient access there to other airlines to swap spare parts. The new software is designed to forecast parts requirements based on sophisticated variables, such as how busy an airport is, the types of planes that frequently fly in and the parts they are likely to need.

SAP and Xelus are working together to craft Delta's system. Historically, SAP has tried to be all things to all customers, but the company is proving that it's willing to deliver on its promises to collaborate with rivals, noted analysts.

"They need to open themselves up," said Dwight Klappich, an analyst at Meta Group Inc. in Stamford, Conn.

DELTA'S WALTER TAYLOR says Xelus software will help airports that have limited access to spare parts better forecast parts requirements.

Roundtables Set Change in Motion

Microsoft's new corporate sales strategy started taking shape after a series of roundtables conducted last fall with key IT executives.

Charles Stevens, vice president of Microsoft's enterprise and partner group, said that in the past, Microsoft took a "silo-based" approach, with account managers, business solutions experts and services sales forces often selling independently into the same enterprise.

Stevens said customers told him, "It's just too hard to work with Microsoft. I have to deal with these account managers and these purchasing contracts, which is too complicated, and none of these people are selling me solutions. Then you have all these partner people over here."

IT managers also told Stevens that budgets are being cut and companies are focusing on returns on investment, shorter projects and creating business value. "If you really want to help me to be successful, show me how to cut costs in the infrastructure," Stevens said he was told.

Thus, Microsoft made the move to "integrated solutions" sold by a dedicated account manager and a technical specialist, who can call on executives or experts in specific product areas as needed.

"We'll measure your satisfaction every year. And any problem you have, you work with these two people," Stevens said.

Another driver was a desire for growth in enterprise sales. Stevens said Microsoft had a great business selling desktops into the enterprise, but he could foresee that the 10% growth rate would be flat if the company didn't change its sales and product development model.

The alternative? "Get more aggressive, go up to the data center, build much deeper solutions with partners and just go head-to-head with IBM and Oracle. Not on every case or winning every case, but have a really well-defined solution that can be deployed – whether it's supply chain for business integration or employee self-service or portals or CRM applications," he said.

In a further change, Microsoft's enterprise sales force will no longer be compensated by salary and bonuses. Instead, they will be compensated based on quotas that can't be met by "just selling a lot of Office and Windows [products]," Stevens said.

"You've got to sell [those products] because that's where a lot of the revenue comes from," he said. "But if you don't get some of these big server projects, you're not going to . . . hit the full quota."

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Black Hat Highlights Real Danger of Script Kiddies

Reckless probing by amateurs could actually be helping cybercriminals

BY DAN VERTON
LAS VEGAS

THIS YEAR'S Black Hat and Def Con Internet security conferences appeared more professional than in previous years, with more security professionals and government officials in attendance. But one thing the conferences didn't offer, say observers, is a picture of an organized, mature hacker underground.

That lack of maturity and organization may, in fact, make the less capable hackers more dangerous, according to many of the security experts who attended this year's 5,000-strong Black Hat Briefings and Def Con conferences this month.

Experts say script kiddies — mostly teen Web page defacers — often unwittingly aid and abet serious criminals through their reckless probing and compromising of systems. In addition, they often are the targets of coercion by criminals, who egg them on in chat rooms and other online forums. The more sophisticated criminals are then able to exploit the work of the script kiddies while remaining anonymous.

"The fact that script kiddies will blindly launch scripts against large IP blocks without any thought as to who they are attacking makes them dangerous, especially for those administrators who do not take security seriously," said Mandy Andress, president of ArcSec Technologies Inc., a consultancy in Dublin, Calif. "While I did not see any new, earth-shattering information released at Black Hat, there was enough information for the script kiddies to make them just a bit more dangerous," Andress added.

"Kids are unwittingly doing the bidding for organized crime syndicates," said Frank Cilluffo, an analyst at the Center for Strategic and International Studies in Washington.

Although the hackers who attended Black Hat and Def Con represent a cross-section of the hacking community, intelligence experts said they're more concerned about those who weren't there.

"There are others who shun the spotlight yet firmly believe in their agenda to undermine and disrupt e-commerce and commercial use of the Internet," said Gerald Freese, director of intelligence at Vigilinx Inc., a security firm in Parsippany, N.J., that specializes in threat intelligence. "These are the veterans. These are the ones that we fear the most."

Increasingly, those veterans are overseas, said Chris Klaus, founder and chief technology officer at Internet Security Systems Inc. (ISS), an Atlanta-based managed security services firm. The middle-class kids who comprise the Web page defacement community in the U.S. lack the economic motivation to commit real crimes, he said. But in Russia and other countries where economic conditions are much worse, such motivation is higher, and ISS's intrusion statistics bear that out, said Klaus.

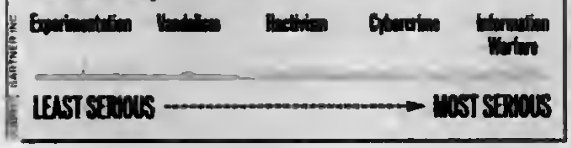
In a recent interview, Cilluffo called the situation in Russia a "toxic blend of crime, business and politics," where senior intelligence and security officials are using their positions to commit crimes in cyberspace.

In many cases, "the chuckleheads really are providing a public service," said John Pescatore, an analyst at Stamford, Conn.-based Gartner Inc.

"Before the vandal hackers became so prevalent, [vendors] would take months before releasing a security patch — if they were even aware of the security bugs in their products," said Pescatore. "While most of today's hacker dudes will just be tomorrow's pinball burnouts, some of them will turn out to be the next [Steve] Wozniak — who started out building black boxes to rip off long-distance telephone service." Wozniak, of course, went on to help co-found Apple Computer Inc.

The Hacker Hierarchy

Exploits by those on the lower end of the hacker spectrum may actually be doing more to help cybercriminals than to improve Internet security.



SOURCE: GARTNER INC

Security Vulnerabilities Found in Directory Protocol

Fixes available for LDAP-enabled servers

BY JAIKUMAR VIJAYAN

A Finnish university project to test the security of communications protocols has revealed serious vulnerabilities in several implementations of the Lightweight Directory Access Protocol (LDAP) affecting products such as Lotus Development Corp.'s Domino and Microsoft Corp.'s Exchange servers.

The vulnerabilities, which could result in denial-of-service attacks and unauthorized access, were discovered in LDAP-enabled products from nine vendors, according to an advisory posted last week by the CERT Coordination Center at Carnegie Mellon University in Pittsburgh. No such attacks have yet been reported.

In addition to Domino and Exchange 5.5 and 2000 server, other products found with security problems include Sun Microsystems Inc.'s iPlanet Directory Server, IBM's SecureWay Directory, Qualcomm Inc.'s Eudora Worldmail and Network Associates Inc.'s PGP Keyserver, according to CERT.

Information about patch availability and advice about how to block access to directory services at the network perimeter is posted on CERT's Web site at *www.cert.org/advisories/CA-2001-18.html*.

LDAP is a protocol used to access directories containing critical information such as user names and authentication information, addresses and cryptographic certificates.

The breaches were discovered when the Oulu University Secure Programming Group in Finland applied a security test suite that sent sample packets containing unexpected values or illegally formatted data to LDAP-enabled products.

"The test suite revealed vulnerabilities that were lying dormant" in the products, said Jeffrey Lanza, a CERT member. "This type of testing should have been applied earlier in the development process."

But there are no published exploits telling would-be hackers how to take advantage of these holes, so "the likelihood of an attack coming as a result of this is relatively low," said Russ Cooper, an analyst at Reston, Va.-based security firm TruSecure Corp. The fact that LDAP isn't widely deployed on the Internet is another mitigating factor, he said.

"I think at this point, people need to make sure they get themselves patched, but I wouldn't expect a wide range of attacks as a result of the vulnerabilities," Cooper said.

Still, "it is only a matter of time before a hacker tries this," said analyst Daniel Blum at The Burton Group in Midvale, Utah. "Now that it's been published, [users] really need to pay attention to [it]."

Jennifer DiSabatino contributed to this story.

LDAP Loopholes

Security testing revealed that:

SUN'S IPLANET server contains vulnerabilities that could allow remote attackers to execute arbitrary code.

CERTAIN VERSIONS of SecureWay directory are vulnerable to denial-of-service attacks because of problems in LDAP handling code.

VULNERABILITIES in LDAP handling code on the Domino R5 server and on Oracle Corp.'s 8i Enterprise Edition could allow remote attackers to run arbitrary code.

SOURCE: ADVISORY FROM CERT COORDINATION CENTER, PITTSBURGH

BRIEFS

Intel Speeds Shift To Pentium 4 Chip

Intel Corp. last week reported a 94% year-to-year drop in second-quarter net income and said it's planning "a major acceleration" of the ongoing transition from the Pentium III processor to the newer Pentium 4 chip. Craig Barrett, Intel's president and CEO, said in a statement that the Pentium 4 is now scheduled to be available at "all mainstream PC price points by the end of the year."

Comdisco Files for Bankruptcy Protection

Comdisco Inc., a disaster-recovery and IT leasing company in Rosemont, Ill., announced last week that it has filed for bankruptcy. The company said it will cut 200 jobs and sell its technology services business to Hewlett-Packard Co. for $610 million.

Kodak, FileNet Settle Patent Lawsuit

Eastman Kodak Co. and FileNet Corp. have settled a 7-year-old lawsuit for almost $4 million. The suit originated when now-defunct Wang Laboratories Inc., purchased by Rochester, N.Y.-based Kodak in 1997, sued Costa Mesa, Calif.-based FileNet for alleged patent infringement of image-transfer technology.

Unisys, NCR Down

Computer makers Unisys Corp. and NCR Corp. reported lower earnings for the second quarter, and Unisys issued a profit warning for the third quarter. Blue Bell, Pa.-based Unisys said it earned $29.3 million, compared with $59.4 million in the same quarter a year ago. Revenue for the quarter ended June 30 was up 3% from the same quarter last year, to $1.46 billion. NCR, in Dayton, Ohio, said net income was $35 million, compared with $39 million in the second quarter last year. Revenue was $1.5 billion, up from $1.45 billion a year ago.

M-Commerce Hits Snag As Cell Carriers Balk

Many say FCC guideline to pinpoint location of handheld devices too stringent

BY BOB BREWIN

With a growing number of nationwide cellular carriers trying to bail out of federally mandated accuracy requirements, retailers planning to use cell-phone-based location services to steer customers into their shops may have to resort to other marketing efforts. The carriers want to offer much-less-precise location services instead that wouldn't be of much help for mobile commerce.

The Federal Communications Commission set Oct. 1 as the deadline for carriers to start providing information to locate the source of emergency 911 calls. FCC guidelines require that carriers offering network-based systems — which use sophisticated triangulation between callers and nearby cell towers — deliver location information with an accuracy of 300 meters for 95% of calls and 100 meters for 67% of calls.

The FCC has even more stringent requirements for location services that depend on an enhanced Global Positioning System chip in the handset.

But the requirements are meeting resistance from various carriers that say they can't reach that level of accuracy or at least need more time to do so. Most won't promise the ability to locate a mobile device any closer than 750 meters, or several city blocks, for networks using Time Division Multiple Access (TDMA) protocols. Some can meet the requirements with the portion of their networks that use the Global System for Mobile Communications (GSM) standard, however.

Earlier this month, Atlanta-based Cingular Wireless told the FCC that it could provide accuracies of only 250 to 750 meters in the portion of its network that operates on TDMA. That constitutes 70% of its network.

In April, Redmond, Wash.-based AT&T Wireless Services Inc. filed a similar waiver request to extend the acceptable location range to 750 meters for its TDMA network. AT&T said it would provide accuracies of 250 meters for 67% of its calls and 750 meters for 95% on its GSM network. AT&T's network is 100% TDMA outside of Seattle but is moving to GSM.

"The technology has been wanting," said Ritch Blasi, a spokesman for AT&T Wireless. "We're trying to come up with the optimal technology and make sure it works."

The FCC hasn't commented on the current round of waiver requests but last September said that "waivers should not be generally warranted."

Mobile Location Service Progression

- **June 1996** — FCC mandates cellular location services
- **[illegible]** — FCC pushes back rollout date for handset-based location systems from March 2001 to October 2001
- Nextel Wireless asks for extension for deployment of its handset-based system from October 2001 to October 2002
- AT&T Wireless asks for waiver to allow it to provide accuracy in 750-meter range, not the mandated 100- to 300-meter range for network-based systems
- Cingular Wireless files similar waiver

Borland to Launch Collaborative Web Apps

Hosted tool enables joint app development

BY LEE COPELAND

Borland Software Corp. is gearing up for the release of its first collaborative, Web-based software tool.

This week, Borland plans to showcase the TeamSource product at its 12th annual user conference in Long Beach, Calif. At the conference, which is expected to attract 2,000 customers, Borland also plans to highlight its development tools for Java and Microsoft Corp.'s .Net Web-based services initiative, officials said.

The new tool, called TeamSource Developer Service Provider (DSP), is an environment that allows developers in disparate locations to collaborate on the same application development project. Borland plans to offer it only as a hosted application.

But some large companies might consider a hosted Web development environment a security risk, said John Meyer, an analyst at Giga Information Group Inc. in Cambridge, Mass.

"Overall, the features and functions are right on the mark, but it may only be of interest to smaller companies that are less risk-averse," he said. "There is always a question with large enterprises that their digital development could get commingled or be vulnerable to hackers on a site that's open on the Web."

But Ben Riga, Borland's director of marketing for DSP, said it won't be available as a server-based product because the collaboration tool would be easier for customers to use and maintain as a hosted service.

The Scotts Valley, Calif.-based vendor first announced the DSP initiative in November. At that time, it also changed its name from Inprise Corp. back to Borland and acquired Chicago-based Bedouin Inc. Borland built DSP with Bedouin's Web-based application development product, according to officials.

Meyer lauded Borland for its stock comeback in the midst of a bear market. Borland's stock, trading at $16 last week, has climbed from a 52-week low of $4.17 in October.

Last week, Borland reported revenue of $56 million for the quarter ended June 30, a 20% increase from the same quarter last year. Profits increased 60% to $6.4 million, compared with the same period a year ago.

AT A GLANCE

App on Tap

Borland plans to launch TeamSource DSP this fall.

- The hosted, Web-based environment **will allow developers in disparate locations to collaborate** on the same application development project
- It can be used with **Borland's JBuilder, Delphi and C++ Builder tools.**
- **Pricing** hasn't been determined.

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Borland Software Corp. is gearing up for the release of its first collaborative, Web-based software tool.

This week, Borland plans to showcase the TeamSource product at its 12th annual user conference in Long Beach, Calif. At the conference, which is expected to attract 2,000 customers, Borland also plans to highlight its development tools for Java and Microsoft Corp.'s .Net Web-based services initiative, officials said.

The new tool, called TeamSource Developer Service Provider (DSP), is an environment that allows developers in disparate locations to collaborate on the same application development project. Borland plans to offer it only as a hosted application.

But some large companies might consider a hosted Web development environment a security risk, said John Meyer, an analyst at Giga Information Group Inc. in Cambridge, Mass.

"Overall, the features and functions are right on the mark, but it may only be of interest to smaller companies that are less risk-averse," he said. "There is always a question with large enterprises that their digital development could get commingled or be vulnerable to hackers on a site that's open on the Web."

But Ben Riga, Borland's director of marketing for DSP, said it won't be available as a server-based product because the collaboration tool would be easier for customers to use and maintain as a hosted service.

The Scotts Valley, Calif.-based vendor first announced the DSP initiative in November. At that time, it also changed its name from Inprise Corp. back to Borland and acquired Chicago-based Bedouin Inc. Borland built DSP with Bedouin's Web-based application development product, according to officials.

Meyer landed Borland for its stock comeback in the midst of a bear market. Borland's stock, trading at $16 last week, has climbed from a 52-week low of $4.17 in October.

Last week, Borland reported revenue of $56 million for the quarter ended June 30, a 20% increase from the same quarter last year. Profits increased 60% to $6.4 million, compared with the same period a year ago.

AT A GLANCE

App on Tap

Borland plans to launch TeamSource DSP this fall.

- The hosted, Web-based environment **will allow developers in disparate locations to collaborate** on the same application development project.
- It can be used with **Borland's JBuilder, Delphi and C++ Builder tools.**
- **Pricing** hasn't been determined.

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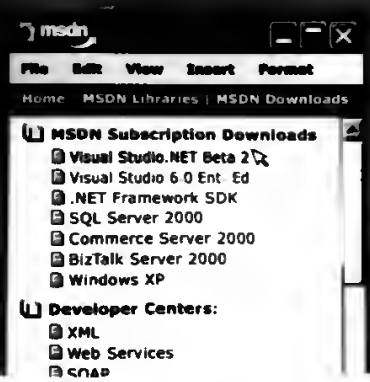
A bloated phrase such as "revolutionary



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MARYFRAN JOHNSON

Ruled by Numbers

IN THIS, THE SUMMER of our fiscal discontent, the IT spending slowdown is exacting a heavier toll with each passing week. Onetime industry stalwarts are staggering into bankruptcy (Comdisco, Metricom), cutting thousands of jobs (Lucent, Compaq, EMC, IBM) or watching earnings plummet (Unisys, NCR, Silicon Graphics). Formerly hotshot B2B software vendors (Commerce One, i2 Technologies, BroadVision) are sucking so much wind they could float away. Even the bullet-proof security vendors (Network Associates, RSA Security) are taking cover from this economic storm.

MARYFRAN JOHNSON is editor in chief of *Computerworld*. You can contact her at maryfran_johnson@computerworld.com.

Great time to be planning your fiscal 2002 budget, isn't it? But that's where many of you are right now. And if Morgan Stanley got it right in a recent survey of 225 IT buyers, at least 50% of you have been ordered to cut or slow technology spending. In 2000, the U.S. Department of Commerce reckons, 47% of corporate capital spending, about $667 billion, went to IT. No doubt a good chunk of that money was earmarked for "strategic initiatives" on the Web that don't look so strategic these days.

So where does this leave IT managers and executives? Looking hard at the numbers that rule your lives. You're scrutinizing the same areas of IT spending that your CFO is: telecommunications, licensing fees, software upgrades and outsourcing. As the buzz has quieted on new initiatives, it's ratcheting up on nuts-and-bolts savings. Small projects with fast, measurable payback are looking sexy.

If figuring out how to measure IT payback has you stumped, check out last week's issue of *Computerworld ROI* (*www.computerworld.com/roi*) and read the cover story ("What to Count?" by Johanna Ambrosio). You'll see how firms like Lockheed Martin and Intel track real-world IT metrics.

The IT heroes of this budget season will help increase sales leads while controlling costs, reduce cycle times or drive faster service. They'll realize that every new project proposal needs an ROI statement that brings some joy to the bottom line. The real leaders will be those who rule the numbers, not vice versa.

PIMM FOX

Buyers Have Upper Hand in IT Marketplace

THIS COULD BE the best of times for IT departments to evaluate new products and services. And thanks to our struggling economy, price doesn't have to be a consideration.

Suppose your CIO has asked you to lead one of several groups charged with choosing a new storage platform. First, your group, using internal technical criteria, gathers presentations from vendor reps and asks them to come in and talk about their products and services. You don't even mention price.

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Second, after you winnow the field to three or four companies that meet your initial technology needs, you visit their manufacturing facilities.

Third, your group should talk to other companies using the vendors' products and services in an implementation that closely mirrors your own.

The next step is a formal mathematical rating of each vendor. Each team rates the attributes of the products and services, still leaving cost aside.

After all, as Charlie Oliver, director of global computing and telecom services at Eastman Chemical, says, it's a buyers' market today.

"We tried initially to keep cost as a secondary item," says Oliver. "People tend to skew their decision-making and evaluation based on cost." That's why Eastman wanted to segregate cost from the quality of the technology.

Oliver's project involved a new storage system. His experience is worth noting because this is the first time in many years in which buyers can be demanding of vendors — and meet with success.

"We asked that cost information not be provided to team members, because we wanted a decision based on the technology," says Oliver. "Through effective negotiations by our purchasing organization, we were able to get a competitive price." Eastman eventually settled on EMC for essentially the same price as what other vendors would have charged.

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This happened even though Oliver knew beforehand that while EMC products were highly rated, they also carried a high price.

Two 30-minute negotiating sessions were all it took to reach an agreement. "After the first meeting, we made it clear that they needed to be more aggressive in their pricing and that we would be a good win for them in the chemical business," Oliver remembers. EMC can now use Eastman ($5.2 billion in sales last year) to make inroads into the chemical industry.

With IT spending under heavier scrutiny and most vendors' sales dropping, you can gain an advantage when you're looking to make a purchase. For their long-term survival, vendors are now being flexible on price, so caveat emptor.

DAVID MOSCHELLA

A Step in the Right Direction For Microsoft?

DEPENDING ON your perspective, you could be easily amused or insulted by Microsoft's recent decision to finally allow PC manufacturers to customize their desktop screens and/or remove Internet Explorer. While this change is a small step in the right direction and has certainly pleased a few PC vendors, you can't help but laugh that Explorer, once an "integral part of Windows," suddenly isn't. Those who are more serious about wanting to restrain Microsoft are understandably irked by this crumb of a concession, which would have meant something five years ago but is largely irrelevant now.

DAVID MOSCHELLA is vice president of knowledge strategy at Meansbusiness, an online database of business ideas, in Boston. Contact him at [redacted]

One thing is for sure: This announcement has little to do with settling the current antitrust case. But with renewed negotiations likely, it's a good time to revisit Microsoft's main settlement options and what the history of antitrust settlements would predict.

In 1956, in order to settle a 4-year-old antitrust suit, IBM agreed to sell off its data processing services company to Control Data. It was more than a quarter-century before IBM got back into the processing services business. Similarly, during the 1920s and '30s, AT&T decided not to compete in emerging markets such as radio, film and color televisinn, even though it had strong technology in all three areas. Essentially, both IBM and AT&T agreed not to pursuc a major class of opportunity in order to preserve their core business monopolies. This is the argument for divestiture.

For example, spinning off online properties like the Microsoft Network and Hotmail would be very analogous to what IBM did in the 1950s and would almost certainly settle the case. Similarly, divesting the Office products group would create such a huge and profitable new company that this too would likely be deemed sufficient.

But since tbese are the very outcomes that Microsoft is trying to avoid, the company will continue to focus on more behavioral remedies. Here also, history is instructive. In tbe 1980s, IBM kept U.S. and European regulators at bay by agreeing to provide detailed system interface information to vendors of IBM-compatible mainframe equipment. If Microsoft wanted to follow this model, it could agree to make its operating system source code public and publish uniform Windows pricing. In cnnjunction witb the recent desktop changes, these steps would comprise the core of a serious settlement proposal.

Microsoft would be taking a huge and largely unnecessary risk if it pushed for an outright trial victory. By behaving so unprofessionally outside of the courtroom, Judge Jackson took people's minds off the equally poor behavior inside the courtroom by many senior Microsoft officials. If the case goes back to trial, Microsoft's now-proven antitrust violations and demonstrated lack of credibility will be on display once again. And this time, the atmosphere will be even more charged. The many tie-ins nf Windows XP and Microsoft's new and outrageously high Software Assurance subscription pricing demonstrate that the stakes are actually higher than ever.

The leaders nf both IBM and AT&T came to understand that significant business restraints are an important part of the social compact for companies whose power and strength start to rival that of the government itself. Unless Microsoft comes to acknowledge this well-established reality, the antitrust trial will resume, and the case for a major divestiture will likely grow.

READERS' LETTERS

Judgment Time

I FOUND YOUR analysis on the Microsoft ruling surprisingly naive ["Microsoft Case May Yield Choice," Page One, July 9]. First, the appeals court ruled that Microsoft was a monopoly. Second, operational constraints didn't work in the past, and there's no indication they'll work in the future. Third, Microsoft refuses to admit any mistake. These are the key factors that led to Judge Jackson's decision and indicate to me that a quick settlement isn't likely. The appeals court may not like the concept of a breakup, but Jackson felt nothing else would work. He didn't make that decision lightly, and any new judge will be faced with the same dilemma.

Bruce Barnett
Clifton Park, N.Y.

The All-Inclusive OS

I AGREE WITH Pimm Fox's viewpoint on Windows XP ["Microsoft Asking Too Much With XP," News Opinion, July 2]. I've been using XP since Build 2428, and although I love it and all the new features, I also recognize that if I owned one of the companies whose products will be made unnecessary by the operating system, I'd be upset. It's silly for me to keep using things like WinZip, PCAnywhere and Yahoo Messenger when XP includes native zip compatibility, Remote Assistance and MSN Messenger.

Glen Lipka
CEO
Koko Interactive
New York

Calling Security Pros

DAVID FOOTE is to be commended for the points he made in his column "Companies Need Security Pros With More Varied Skills" [News Opinion, July 9]. Our firm has firsthand experience with many serious computer security incidents and has found this to be true. I'm not criticizing our IT staff, which is an integral part of security. But for management to just throw security responsibilities onto someone in a company is wrong. I'm glad this message is getting delivered.

Ed Stroz
President
Stroz Associates LLC
New York

Thrown a Curve

IT WAS AMUSING to see an effort to resurrect "The Learning Curve" in its naive, discredited form [Business QuickStudy, July 2]. Learning (process improvement and cost reduction) doesn't just happen as an automatic byproduct of repeated production. Rather, it is the result of directed effort. Two firms making identical products can improve at very different rates if one has superior learning methods. After all, if learning were automatic, we wouldn't need things like Six Sigma programs, and late entrants into a market could never produce more cheaply than a pioneer. As for "aggressive pricing in the early phases of a product life cycle," The Boston Consulting Group made its name in the early 1980s pushing this concept. Unfortunately for clients like Texas Instruments, it often didn't work. TI lost bundles in digital watches and DRAM by pricing below cost and hoping it would make it up nn volume-based learning. Improving a process is an investment, and it takes work.

Roger Bohn
Director, Information Storage Industry Center
University of California, San Diego

COMPUTERWORLD welcomes comments from its readers. Letters will be edited for brevity and clarity. They should be addressed to Jamie Eckle, letters editor, Computerworld, PO Box 9171, 500 Old Connecticut Path, Framingham, Mass. 01701. Fax: (508) 879-4843. Internet: letters@computerworld.com. Include an address and phone number for immediate verification.

DAN GILLMOR

Gramm-Leach's Privacy Problem

BY JULY 1, you and your family had probably received a slew of so-called privacy notices in your snail-mail boxes. Financial institutions of all kinds told you how much they cared about customers' privacy — and then proceeded to make it as difficult as possible for customers to actually protect themselves from one of the growing abuses of our times.

This exercise stemmed from the 1999 Gramm-Leach-Bliley financial services deregulation legislation. Its main purpose was to let various kinds of institutions enter other financial fields, such as banks buying insurers. And for better or worse, we're entering an era of financial services conglomerates.

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One of the legislation's lesser-known provisions dealt with the topic that has moved closer and closer to the top of the public's hot-button list. Our privacy has been stolen from us, not just by governments, but especially by companies that buy, sell and otherwise trade our most personal information like the commodity it has become.

The law pretended to help. It said banks, insurance carriers, credit card issuers and other financial services institutions had to notify customers that they could opt out of having their data shared among nonaffiliated companies. Consumers would have to opt out — that is, explicitly notify the institutions that they didn't want their data shared — rather than opt in, which is to allow data sharing only after giving permission. Affiliated companies (such as those under the same corporate umbrella or in joint marketing deals), so broadly defined as to be almost meaningless, are exempt in every respect.

Reportedly, companies are spending hundreds of millions of dollars, possibly as much as $400 million, to comply with the law. But they're doing it in ways that seem designed to thwart their customers' wishes. The disclosure statements have not been forthcoming, for the most part, about their genesis. Most resemble the junk mail we routinely toss out. And I can't remember one that explained that it was being sent as a result of a federal mandate. Most companies have pretended that they've suddenly started caring about privacy, when the opposite is so obviously the case.

And opting out, even in the limited ways possible, isn't easy. Typically, you have to send a snail-mail letter. Not one of the companies with which I do business established a Web page where I could register my preferences.

What does all this have to do with IT?

Eventually, public anger will overcome the industry's lobbying muscle. Companies will be forced to treat customers' data more carefully and honorably. And the companies that are prepared for this day will have a leg up on the competition.

IT should start thinking today about how to build a system that incorporates opt-in as the default. This is a big change from current systems, which assume no customer control over how data is used. The obvious place to handle these requests is online or in an automated phone system.

Companies force consumers to jump through hoops to opt out. When they need their customers' permission, they'll suddenly realize that IT has the answer. Think about this now, not later. ▶

THORNTON MAY

Building a Security, Privacy 'Brand'

OBSERVERS OF the evolving organization can't help but see the phrase *information security* increasingly being linked with the now white-hot noun *privacy* and the stimulating concept of *brand*. The conversations that take place when fusing these three very separate but inexorably connected ideas typically revolve around the brand deterioration that occurs when information security is compromised, eroding the privacy that companies have promised to trusting customers.

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Future-focused IT leaders are looking closely at the health of the "brand" of information security and privacy personnel. This represents new thinking, since most people apply the word *brand* to consumer products and companies, not to departments or people.

Michael Moon, co-author of *Firebrands: Building Brand Loyalty in the Internet Age* (Osborne McGraw-Hill, 2000), defines branding as "the systematic and consistent application of product or service design, storytelling, media and technology to the buying and using experiences of customers throughout a satisfaction life cycle." Companies must view themselves as "customers" of the information security and privacy group[s]. Are they happy? Are they well served? The brand, or reputation, of these groups depends on how the rest of the company perceives them and the benefits they're perceived as providing.

Arizona State University researchers contacted more than 100 senior executives and discovered the following:

- The information security and privacy groups in many companies are branded as "slow," "expensive" and "difficult to deal with."
- Security and privacy programs must be rebranded as high-value executive activities. An important first step is to rebrand security and privacy groups as "good to work with," "knowledgeable about the business" and "customer-focused."

In his book, Moon describes seven regions of "brandspace." Three are "hells," two are "purgatories" and two are "heavens":

Brand Hell No. 1: No knowledge. One of the worst things the information security and privacy organization's officer can say is, "I don't know what you're talking about." If you're in this hell, short-sell the stock and polish your résumé.

Brand Hell No. 2: Noise but no knowledge. Employees have heard about the security and privacy groops but have never really worked with them. Many health care nrganizations are languishing here. Policies have been written centrally but deployment and compliance-monitoring are irregular. In a litigious world, this is a dangerous place.

Brand Hell No. 3: Knowledge and loathing. Unfortunately, this is wbere tbe brand of the security and privacy groups in most large organizations lives. Most programs haven't been designed with value-focused, time-starved executives in mind. Rarely are they designed in collaboration with users. Eighty-seven percent of today's programs in large enterprises lack grass-roots support.

Brand Purgatory No. 1: Switchable hrands. Most executives believe but won't voice their understanding that information security is something you do when you're done with your "real" work.

Brand Purgatory No. 2: Go-to brands. For very few enterprises, holding discussions with the information security and privacy groups is the first step. As such, they are the go-to hrands — the preferred behaviors, given the time and resources.

Brand Heaven No. 2: Badges of belonging. In rare instances, security and privacy competence has become a critical ingredient in shaping leadership identity.

Brand Heaven No. 1: Core identity. Appropriate security and privacy behaviors become an unconscious part of all workplace behavior patterns.

Historically, security and privacy have been thought as someone else's responsibility. Today, they must be embedded in an organization's behavior. The only way to make this happen is to reposition and rebrand security as something executives *want* to do vs. something they *have* to do. ▶

BUSINESS

SUPERSIZED XP PROJECTS

Thus far, most Extreme Programming (XP) projects have been relatively small, points out Ed Yourdon. But, he says, when people argue that the XP approach isn't suitable for larger-scale IT projects, don't believe them. ▸ 26

SETTLING IN AT ANC RENTAL

Change has been the name of the game at ANC Rental, but the IT department has been focused on creating a new, stable culture within the company after a long stretch of acquisitions. ▸ 28

WISE WORKING PARTNERSHIPS

Economic constraints are leading more companies to forge business alliances, yet 75% of such relationships fail to meet expectations. Here are some tips on making them work. ▸ 30

DON'T HIDE FROM THE TRUTH

It's real simple: A "don't ask, don't tell" policy is bad business, writes Kathleen Melymuka. In order to be productive, employees must feel free to be themselves, as opposed to fretting that the truth about their sexual preferences will come out. ▸ 36

SUPPORTING GAYS IN THE WORKPLACE

ANYTHING THAT DISRUPTS AN EMPLOYEE'S ABILITY to focus on work detracts from the bottom line. How well would you be able to concentrate if you knew that you could be fired or scrutinized for your sexual orientation? Here are some tips from gay and lesbian IT workers about supportive employer practices that help them to be effective at their jobs. 34

PAM FRANCIS

Your supplier could be holding
four aces. Then again,
it could be a pair of threes.

sas

WORKSTYLES

ANC Rental Shifts Into New Gear

What It's Like To Work at...

Interviewee: Mike Manis, vice president of IT for revenue applications
Company: ANC Rental Corp., which encompasses Alamo Rent A Car LLC, National Car Rental System Inc. and the Alamo Local Market division (formerly CarTemps USA)
Main location: Fort Lauderdale, Fla.
Tenure: Since last summer
Number of IT employees: "We're very heavily outsourced, so that's a hard question to answer. We have about 100 to 150 who are actually employees, plus 50 to 60 in Ohio [for Alamo Local] and Europe."
Number of employees (end users): More than 20,000
What impact does the summer travel season have on IT? "We do a lot less in development and spend more time on support. We do emergency fixes, and there are more people who are on call, especially on Monday mornings when our volumes are real high with returns and pickups."
What systems do you outsource, and why? "Of the systems that I own, the reservation, rental operations and fleet management systems are outsourced, but I have staff to handle the Web sites, data warehouse and revenue management applications.

"This is a company made up of acquisitions. National had already outsourced its systems. Alamo was in-sourced. And when we combined, we decided to stick with outsourcing. Long term, some pieces of the reservation, rental and fleet systems are [commodities]. A reservation is a reservation, when you get down to it - you need the customers' information, where they're going, how long they'll keep the car and what kind of car they want. How you package that is what makes it strategic - like Alamo QuickRent on the Web - and I own that."
Major initiatives for this year: "To grow the Web sites. We're doing more than 10% of our bookings for the entire company via the Web. We have two [Web-based] systems today - one for Alamo and one for National - and we're trying to find ways to consolidate them and lower our costs while providing the same service."
IT training: "It's pretty individualized, but Java for the Web folks, E.piphany [customer relationship management], a lot of Oracle."
Workday: 9 a.m. to 5:30 or 6 p.m.
Must people carry beepers? Cell phones? "Yes. Each group has a support beeper; the people on call have beepers, and we have cell phones."
On-site day care? No
Free refreshments: "We have a group of people called 'angels' who bring in doughnuts or bagels every day, but it's not company-provided."
The one thing everyone complains about: "For a while, you heard a lot of people talking about wanting stability, because there had been so much change. But we're not hearing that so much now, which is a good thing. The culture is still forming - it isn't quite in place. The whole [IT] management team has been here less than a year."
Little perks: "I do a lot of things on my own, like giving someone a gift certificate for a free meal or telling someone to take a day off. When we had a big project recently, we put together special travel packages for people. But there's nothing formal yet, except employee discounts on car rentals."
Would employees feel comfortable e-mailing the CEO, Michael Egan? "I doubt it. He has only been here since January. He started up Alamo, then was on the board for a while, and now is back as CEO."

- Leslie Jaye Goff (lgoff@ix.netcom.com)

ED YOURDON

Can XP Projects Grow?

AFTER A DISASTROUS INFATUATION with computer-aided software engineering (CASE) tools in the early '90s, most IT organizations realized they had put too much faith in "silver bullet" tools, and decided instead to emphasize a combination of people and processes. At one extreme, we have "heavy" processes combined with "light" (inexperienced) people; at the other, we have "light" processes and "heavy" (experienced) people.

The latter scenario is exemplified by the Extreme Programming (XP) approach, but is also known by a number of other buzzwords collectively referred to as "agile" methodologies. At its core, the agile/XP methodology movement consists of pragmatic principles that encourage developers and end users to develop systems in an environment in which requirements are constantly changing and collaboration among the individuals is emphasized over formal processes, comprehensive documentation and overly legalistic contracts.

Thus far, most XP/agile projects have been relatively small — for example, a half-dozen developers interacting continuously with a half-dozen users over three to six months. And that has led to a dismissive response from senior IT executives: "XP may be useful on little toy projects, but it certainly won't work on the *big* enterprisewide projects that we're contemplating." I'm not convinced that's valid, and I believe that a big challenge for IT organizations in the coming years will be finding ways to apply the XP/agile concepts on a large scale.

Here's an example of a difference between small, short XP projects and large, long-lasting projects: the "death-march" culture. A handful of highly motivated workaholics can work 80 hours per week for a few months if they choose to, and the organization's management culture may glorify such behavior. But it's simply not possible when 300 people are working on a massive system that will take five years to finish; while some overtime may be necessary, common sense suggests that the overall project schedule must be based on a sustainable effort by everyone concerned.

The biggest challenge for large-scale XP/agile projects is communication. I asked one senior IT executive to describe his company's development process. He said, "We put five developers in a room and let them shout at each other." That may be an oversimplification, but XP/agile projects put a great deal of emphasis on face-to-face interactions between developers and users, with frequently delivered prototypes substituting for written documents. It's easy to imagine that with five developers and five users, but what about 50 developers and 50 users? Or 500 developers and 500 users? The obvious strategy is to break the large project into smaller, semi-independent pieces; but if the entire system has to function as a tightly integrated whole, and if the interfaces between the various subsystems are changing continuously, communications can be a challenge.

One solution involves the concept of emergent behavior, which XP/agile gurus like Jim Highsmith have been advocating. In the IT world, perhaps the best example is the Internet. As Greg Papadopoulos suggested at Sun's JavaOne conference last month, "You don't reboot the Internet; you live with it. It's fundamentally unknowable and unplannable." And consider a non-IT metaphor: Planned cities like Brasilia and Canberra often turn out to be sterile and boring; but vibrant cities like New York and London evolve and grow in a natural, organic fashion, based on actual usage by their populations.

The challenge for IT will be to learn how to manage the creation of a New York or London without succumbing to the bureaucracy that creates a Brasilia or a Canberra. I don't know if we'll succeed, but the most interesting and pragmatic strategies are likely to come from the XP community. If you're an IT manager, you owe it to yourself to begin paying close attention to this group of leading-edge thinkers.

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MAKING ALLIANCES WORK

Most business alliances fail to meet the expectations of one or more parties, but a greater emphasis on developing relationship-building skills can help change that. By Peter Buxbaum

BY ALL ACCOUNTS, strategic alliances are on the rise in today's economy. Attractive rates of internal growth are hard to sustain, and lower share prices in a down market make it tougher to acquire companies through stock swaps.

When it comes to managing IT activities, a growing number of companies are expecting greater value from forging relationships with key technology providers than from developing software in-house.

So, how do alliances measure up? Industry experts agree that most fail to meet the expectations of one or more partners. "Seventy-five percent of alliances are failing or underperforming," says Stuart Kliman, director of Vantage Partners LLC, a consulting firm in Boston.

Vantage Partners recently surveyed 150 corporate alliance managers to explore the reasons and remedies for alliance failures. For the purposes of Vantage's study, alliances included a continuum of relationships, ranging from joint ventures to outsourcing.

Kliman and others have found that the relationship aspects of alliances — as opposed to their substantive performance — are what trips up companies most often. "Fifty-two percent of those surveyed named poor or damaged relationships as the cause of failure," says Kliman. "This involves factors such as a breakdown in trust and a buildup of negative perceptions."

Companies often enter alliances in the same way many consumers buy used cars — without knowing what they're getting into. The better approach, say alliance experts, is to regard the relationship like a tenuous marriage: Prodigious effort and a mature attitude will yield either an improved relationship or a civil parting of the ways.

Vantage Partners has found that most companies lack a significant institutionalization of alliance-building and -maintenance capabilities. Instead, companies hand off those responsibilities to "people persons" and neglect to develop processes designed to promote alliance values on an organizational basis. For example, only 29% of the respondents in Kliman's study reported that alliance managers are consistently assigned to manage such relationships.

Alliance practitioners echo Kliman's conclusions. "Our problems with alliances have stemmed mainly from communications," says Kevin Bott, vice president for product and technology management at Ryder System Inc., a logistics provider in Miami. Four years ago, Ryder stopped developing software in-house and started developing strategic partnerships with technology providers such as i2 Technologies Inc., Manhattan Associates Inc. and Qualcomm Inc.

"We're a $5.5 billion company with many operating locations around the world," says Bott. "We could overwhelm our providers by having 50 people calling them at one time." Instead, Ryder channels communications through two key managers — one from business and one from the technical side — who act as contact points for managing the relationships.

TALE OF TWO DEALS

For Vaughn Hovey, senior vice president for enterprise computing at Bank One Corp. in Columbus, Ohio, past experience demonstrates that assigning the wrong people to manage an alliance can lead to an inappropriate focus and damage the relationship. He tells the tale of two alliances he managed when he was an IT executive at Rochester, N.Y.-based Eastman Kodak

> Alliances that get hung up on short-term performance problems obscure the potential strategic value.
>
> VAUGHN HOVEY (ABOVE), SENIOR VICE PRESIDENT FOR ENTERPRISE COMPUTING, BANK ONE CORP.

Co. — one with IBM and the other with Digital Equipment Corp. The partnership with IBM proved successful; the association with DEC was ditched after its initial five-year term.

Each alliance partner took a different approach to allocating human resources. IBM brought in general managers and operations people; DEC offered only operations types who were focused on current numbers. "Alliances that get hung up on short-term performance problems obscure the potential strategic value," says Hovey.

The parties to the IBM alliance enjoyed effective communicatioo that was facilitated by a proper governance structure, he says. This included monthly advisory council and quarterly management board meetings to assess the progress of alliance projects.

"With the DEC alliance, the council did not meet, and the companies were not able to deal with problems and opportunities io a balanced way," says Hovey. As a result, he says, the DEC relationship degenerated into a blame game over perceived performance shortfalls on both sides.

"The IBM alliance had tactical issues, but we were able to look at the longer term," says Hovey. "With DEC, the focus was too tactical."

THE REQUISITE WIN-WIN

Alliances clearly must offer a deeper and more valuable relationship to both parties than just strict licensing deals. "We maintain these strong relationships to get what we need," says Ryder's Bott. "If we a need major enhancement for one of our customers, we get the developer to reprioritize its development plans." This communication takes place at regular meetings of senior management or at special negotiating sessions, he says.

The leverage that Ryder exerts on its partners is balanced by rewards. Recognizing that third-party technology deployments can generate potential revenue, Ryder offers compensation beyond the usual enterprise license. "We pay them based on the number of users," says Bott. "As the numbers go up, we pay them more. The objective . . . is not to cut costs." Instead, he says, the partners focus on joint strategic goals, such as maximizing revenue and penetrating new markets.

That's one lesson that's not lost on Wendell Jones, CEO of Gaithersburg, Md.-based consultancy Outsourcing Advisors International and a former IT executive in the aerospace industry. "The provider wanted so much to get our business," recalls Jones of one of his aerospace outsourcing deals, "that we hammered them hard on price. We thought we were tough negotiators and that we got one hell of a bargain.

"But when the dust cleared, the poor account executive had to explain to his higher-ups why they weren't making any money," adds Jones. "In retrospect, I would have negotiated a better deal for the vendor."

For Jones, alliances are built on trust, and relationship factors are as important as performance. "Some people are constantly measuring how well their partner is doing," he says, "What really causes trouble are the loss of trust, assigning blame and not taking joint responsibility as in a good marriage."

Marriage counseling is precisely Gene Slowinski's inspiration for figuring out what makes alliances work. "When the expectations of the husband and wife map to one another, you probably have a good marriage," says Slowinski, director of strategic alliance research at Rutgers University in New Brunswick, N.J. "The further expectations diverge, the worse the marriage will be. If they get too far apart, the best you can do is to help them divorce neatly."

Slowinski suggests that the same principles apply to alliances. That's why he developed a tool called "expectation mapping," which is designed to bring parties to an agreement about their roles io a relationship. "Each party fills out a sheet on how it sees its own role and its counterpart's, and then they negotiate," Slowinski says. "They either get to a deal quickly, or they part as friends."

Buxbaum is o freelance writer in Elizabeth, N.J. Contact him ot Pab001@aol.com.

LEVERAGING AN ALLIANCE METHODOLOGY

AS IN A MARRIAGE, it's probably a good idea for both parties in an alliance to get to know each other well before tying the knot. To help make that happen, Matthew Segal, senior partner at the Alliance Management Group Inc. in Gladstone, N.J., has developed an alliance planning and negotiating system.

Segal, a 20-year veteran of managing alliances at Murray Hill, N.J.-based Lucent Technologies Inc. and AT&T Microelectronics, says his experience led the development of his Alliance Framework.

Segal's methodology requires that potential deal-killers – issues like splitting the financial pie or allocating ownership of intellectual property – must be identified and dealt with upfront to foster this crucial mutual understanding.

How? "Each company addresses a set of elements," Segal explains. These are dimensions of the deal – such as objectives, roles, resources, branding and finances – in which both sides develop negotiating positions.

"The process forces both sides to formulate positions carefully and expose them early on in parallel to the other side," says Segal. "Addressing the elements in parallel rather than sequentially forces deal-killers out on the table early. They don't get to talk about the fun things first."

The point of the process, he says, is to avoid the all-too-common phenomenon of alliance failure, which includes "wasting time, effort and resources on a deal that never happens."

– *Peter Buxbaum*

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THE GROWING GAY WORKFORCE

"LIKE VISIBLE EVIDENCE that different ways of thinking and doing are valued," says Chuck Cummings, of Shell Services International in Houston.

PAM FRANCIS

Gay and lesbian workers make up a growing percentage of the IT population — some say IT has the largest percentage of gays of any industry. This poses no special challenges to IT managers, as long as they foster a sense of safe harbor. By Kathleen Melymuka

BOB IS A GREAT IT manager: He's creative and decisive and has a nice way with co-workers. The other day, he was regaling his team with funny stories about his weekend getaway with Dale.

Everyone's met Dale. And it's obvious that Bob and Dale are a devoted couple. They still hold hands at the holiday party. A director-level post will be opening soon, and everyone expects that it's Bob's for the asking. After that, the sky's the limit.

By the way, Bob and Dale are gay.

If that fact would affect the way this scenario would play in your IT workplace, read on.

Some say sexual orientation isn't a workplace issue. But gay people say there's always been sexuality in the workplace: heterosexuality.

"All gay people want is to be treated the same way — allowed to be who we are, just as straight people are," explains Philip Calderon, a senior program analyst who's been working at American Express Co. in Phoenix since 1986.

"You can't separate who you are from what you do," says Eric Griggs, webmaster at LabBoss.com, an online marketplace for scientific equipment in Belmont, N.C. "Putting the whole person to work is more productive."

Gay, lesbian, bisexual and transgender (GLBT) IT employees are a rich talent pool you can't afford to ignore. The most successful companies already know this. According to the Washington-based Human Rights Campaign, just over half of the Fortune 500 companies include sexual orientation in their nondiscrimination policies. Seventy-seven percent of the Fortune 100 do so, as do 82% of the Fortune 50.

And GLBT issues are especially important in IT because anecdotal evidence suggests that gays are disproportionately represented in the high-tech industry. Many gay people feel that the focus on performance in IT creates an intrinsically attractive environment.

"People look for experience and ability to perform the function," says Kathryn Holden, CIO at Quantum Multi-Media in Los Angeles. "As long as you're good, you could be a blobular purple thing, and they couldn't care less."

In fact, technology vendors have taken the lead in building environments welcoming to GLBT workers, offering plenty of alternatives if your gay employees decide to leave. But when GLBT people feel included and valued, they tend to stay.

To attract and retain talent, you need to build a welcoming and inclusive environment. *Computerworld* asked GLBT IT workers what's important to them, and the first things on everybody's lists were mentioning sexual orientation in equal employment opportunity statements and offering domestic partner benefits. Those get you in the game.

But you need to go beyond a paper commitment.

"You cannot assume that just because policies are in place, it's supported at the grassroots level. It has to be something that everybody buys into," says Rick Urban, a user interface prototyper at Lucent Technologies Inc. in Columbus, Ohio. Urban has worked at Lucent for 18 years, starting before the firm was spun off from AT&T Corp.

You need a GLBT network to support gay employees, educate the mainstream and serve as consultants to management, says Marjorie Meyer, a software engineer at Eastman Kodak Co. in Rochester, N.Y., and president of

Kodak's Lambda Network, which supports GLBT employees.

"People are afraid to ask. We let them say the words, ask the questions, get a GLBT perspective," says Meyer, who has been at Kodak since 1979.

Your culture should look diverse in terms of race, gender and ethnicity, and it should nurture individuality.

"Do you have to wear a navy suit every day except for Fridays, when you can wear a gray suit?" asks Joe Carlin, a programmer analyst at American Express in Minneapolis.

The environment should also sound inclusive, from official communications to everyday language. *Partner* or *significant other* are more inclusive terms than *husband* or *wife*.

Free to Work

You can't assume that everybody's like you.

"People always asked if I was single," says Helen McCarthy, a senior systems and network administrator at PlanetOut Corp. in San Francisco. "At one job, I even wore a wedding ring just so I wouldn't be asked."

Employers should encourage diversity of thought and style among employees in the workplace.

"Have you ever walked into a place and seen everybody's walking to the same tune, following the same unwritten rules?" asks Queta Gonzalez, project manager in the diversity and talent pipeline office at Shell Services International in Houston. "I like visible evidence that different ways of thinking and doing are valued."

One visible sign of inclusion is the Safe Space program initiated by Equal, an organization at Lucent that supports GLBT workers. Employees post small Safe Space magnets on their doors or cubicles to indicate that GLBT people can be themselves there.

"Sometimes, co-workers want to be inclusive, but they don't want to bring up the issue because they never hear gays and lesbians bring it up," explains David Lari, a programming consultant for the government of Mecklenburg County, N.C. "Safe Space can be an icebreaker."

You'll need visible support from top executives; a corporate champion can personify a company's commitment. Steve Sunshine, a technical consultant in El Segundo, Calif., who has worked at Xerox Corp. for 12 years, recalls that CEO Paul Allaire spoke at the first conference of Galexe, the Xerox GLBT group. Allaire's commitment was unmistakable, says Sunshine: "He said, 'Do not tolerate intolerance. Any act, any word — you tell us, because it won't be tolerated.' "

When GLBT people are accepted among their co-workers, it frees them to put their energy into their work rather than negotiating difficulties.

"I don't go up and say, 'I'm Brad; I'm gay.' But I answer truthfully when I'm asked how my weekend was," says Brad Peloquin, a technical manager in Boston who has worked at Xerox for more than a decade. "I talk about my partner, and people ask me how he's doing. I've brought my partner to celebrations. I've never run into any problems, never felt excluded."

But even in the best of environments, incidents happen, and a company's response is the test of its commitment.

"When we started doing educational stuff, I got nasty notes and death threats. But the company was very supportive and handled it. That shows real support," says Jane Icenogle, a software engineer in Naperville, Ill., who has worked at AT&T and Lucent since 1982.

"They made it easier for me to report it as a hate crime," Icenogle says of the incident. "They called in the Naperville police and made sure that I felt comfortable reporting it. Then the ombudsperson followed up to make sure I felt OK and wasn't paranoid about being at the workplace. They didn't make a general announcement about what had happened and reinforce that it wouldn't be tolerated. Today, I'd probably ask for that, but this was a long time ago, and at the time, I think they were very supportive."

Incidents are one thing; a bad environment is something else. GLBT workers who have found themselves in unwelcoming workplaces say such environments tend to be homogeneous, authoritarian and inflexible. They tolerate antigay and other biased humor and ignore people's input.

Judy Masseth, a systems engineer in Webster, N.Y., who has been at Xerox since 1984, says she has seen other places where employees literally turn their backs on gay colleagues. But, she says, bias is usually more subtle. "You just walk into a place and immediately feel very uncomfortable," she says.

Gonzalez notes that because tolerance varies around the country, moving to a new location can be a big deal for GLBT folks. "In a place where people are homophobic, it feels dangerous," she says.

Beverly Mitzel says she knows what a dangerous place looks like. Mitzel, head of media services at the University of North Carolina at Charlotte, says her supportive UNC campus is an island in a different kind of cultural sea. "We live in the buckle of the Bible Belt," she explains. "We have a preacher who comes to the campus and preaches hatred."

MOREONLINE

To learn what steps to take to create a safe harbor for GLBT workers, visit our Web site www.computerworld.com/headvice

For Mitzel, danger was palpable at a county commissioners' meeting about ceasing arts funding in Charlotte because of the play *Angels in America*, which is about AIDS in the gay community. "It got so heated and ugly," she recalls. Similarly, a recent fast-food stop was painful. "My partner and I have two African-American children," she says. "We went into a Wendy's, and it was like that E.F. Hutton commercial: Everybody stopped and looked at us."

In contrast, when Mitzel and her partner announced the recent adoption of their son in the campus newspaper, the response of colleagues was unanimously supportive.

GLBT people in supportive IT environments say bias doesn't impede their careers. Still, none could name a GLBT person in the executive ranks of their companies. That doesn't mean gays aren't there, but many apparently choose to be invisible.

"There are quite a few gays [in upper management] who don't feel comfortable to come out, because they're not ready to risk it," Icenogle says. "We've even seen people promoted to the director level go sort of back into the closet. They no longer come to meetings and don't talk about their partners." Icenogle calls this phenomenon the "lavender ceiling."

That ceiling is self-perpetuating. "You need one brave person to step out and have everybody see that nothing bad happens," Urban says. "We're still waiting for that person."

Being yourself at any level is what inclusion is all about, and co-workers facilitate that by treating GLBT people the same as anyone else.

"We talk; we kid," Sunshine says. "I feel I'm appreciated and acknowledged just as a human being."

But don't try too hard, says Breanna Anderson, an IT program manager who has been at Microsoft Corp. for five years.

"I like to have a good relationship with co-workers, but for most part, I'm here to work," says Anderson. "I'm just looking to be treated as equal in the company and not have a tremendously big deal made out of it." ●

Where There's Technology, There Are Gay Workers

Study links large gay populations to nation's high-tech centers

The leading indicator of a city's status as a high-tech center is a large gay population.

That's the conclusion of a study based on the 1990 census data. It was conducted by Richard Florida, a professor at Carnegie Mellon University in Pittsburgh, and Gary Gates, a research associate at the Urban Institute in Washington (*www.brookings.edu*).

The study, called "Technology and Tolerance: The Importance of Diversity to High-Technology Growth," found that 11 of the top 15 high-tech metropolitan areas in the U.S. also are among the top 15 in relative concentration of gays in the community.

The study also found that gays and lesbians are nearly twice as likely as the general population to work in the computer services industry.

There were also correlations between high-tech success and other diversity indicators such as concentration of "bohemians" – artists, writers, musicians or actors, for example – and foreign-born residents, but the gay correlation was the strongest.

"The Gay Index does better than other individual measures as a predictor of high-tech location," Gates said.

The study doesn't imply that a large gay population causes the development of a high-tech center, but rather that people in technology are drawn to places known for diversity.

– *Kathleen Melymuka*

Top Cities for Techies and Gays

TECH RANKING	METROPOLITAN AREA	GAY INDEX RANKING
1	San Francisco	1
2	Boston	8
3	Seattle	6
4	Washington	2
5	Dallas	19
6	Los Angeles	7
7	Chicago	15
8	Atlanta	4
9	Phoenix	22
10	New York	14
11	Philadelphia	36
12	San Diego	5
13	Denver	10
14	Austin, Texas	3
15	Houston	2

KATHLEEN MELYMUKA/DIVERS ITy

Sexual Orientation Is a Bottom-Line Issue

"I DON'T CARE WHAT they do in their private lives; just don't bring it into work." Who hasn't heard that? Gays and lesbians are welcome at work as long as they don't "flaunt it" — that is, as long as they keep their sexuality secret. But those who hold that view may not realize that a "don't ask, don't tell" policy is bad business.

Anything that disrupts an employee's ability to focus on work detracts from the bottom line. And how well would you concentrate if you knew that you could be fired for your sexual orientation? That's true for gays in 38 states. Imagine if your job were to depend on keeping your heterosexuality a secret. Would the fear of being found out affect your focus, your ability to speak freely, your relationships with co-workers?

In a team environment like IT, how much trust could you build with people who might shun you, or worse, if they knew the truth? And how would that affect your ability to move up in the organization?

Philip Calderon, a senior program analyst at American Express in Phoenix, lived that nightmare until he came out four years ago at age 43.

"When you are in the closet, you're afraid," Calderon says. "You get paranoid. And there are integrity issues because you are lying to people."

Marjorie Meyer, a lesbian who works as a software engineer at Rochester, N.Y.-based Eastman Kodak, says closeted gays spend a lot of energy monitoring their own conversations.

"If you're spending time worried about, Did I just say, 'We went away,' or 'I went away'? that's time you're not thinking about work-related problems," Meyer says.

The burden of secrecy is the price of living in the closet, and that kind of anguish is a response to a workplace that doesn't feel safe. The people I quoted by name have found work environments where they feel free to be themselves, where sexual orientation is accepted as freely as race, ethnicity or religion.

But if the work environment doesn't feel safe, gay people may "shut down" and become uncommunicative because it beats constantly worrying about saying the wrong thing. If they do that, the whole team effort suffers.

When Calderon was in the closet, he subconsciously adopted this strategy: "My way of dealing with it was to make myself as invisible as possible," he recalls. "I was the guy who never spoke up in the meeting. I never drew attention to myself. I didn't want people to get to know me because they might figure me out."

KATHLEEN MELYMUKA is a Computerworld features writer. Contact her at kathleen_melymuka@computerworld.com.

At the time, Calderon didn't realize the toll his deception was taking. "It all had a much larger effect than I thought," he says. He discovered this only after he came out and found himself a much more active and vocal participant at work. "I didn't have to be afraid," Calderon says.

Contrast the paranoia Calderon endured with the work life Judy Masseth, a systems engineer, enjoys at Xerox in Webster, N.Y., where a picture of her partner smiles out from her desk. "I'm able to bring my whole self to work," she says. "I don't have to think about how I'm presenting myself to people. I can just be myself."

Her employer benefits, too, she says. "Xerox gains because I'm not preoccupied with trying to cover something up."

Some companies talk diversity, but if they're unwilling to back it up with action, their gay workers won't feel safe. For example, a gay IT worker at a well-known outsourcing firm recently wrote me that one of the company's "cultural disciplines is 'Value the uniqueness and diversity of each employee,' but when push comes to shove, they revert to 'Don't ask, don't tell.' "

People who argue that there is no place for sexual orientation in the workplace must not have given it much thought. Isn't it obvious that creating an atmosphere where no one needs to hide increases the brain power that's focused on work? "It's the right thing to do," says Meyers, "but it also helps the bottom line." ●

BRIEFS

CEOs, CIOs Split on Performance Reviews

More than a quarter of corporate CIOs don't think their CEOs are able to evaluate their performance, according to a recent survey by Reston, Va.-based consulting firm Transition Partners Co. Of the 103 CIOs polled, 27% said their CEOs are "not very capable" of evaluating performance, while another 35% said their CEOs are only "somewhat capable." But in a survey of 53 CEOs conducted last year by Transition Partners, 43% felt they were "very capable" of assessing their CIOs' performance, and 57% said they were "somewhat capable."

Report Tackles Confusion of Web

The Association for Services Management International (AFSMI) has published a new study that seeks to break through the hype and misunderstandings about the Internet. "E-Business Report: An International Study of Progress, Performance, and Best Practices," by James A. Alexander, consulting director of professional services at the Fort Myers, Fla.-based AFSMI, presents research-based information that's aimed at helping organizations decide about new technology options.

Adidas-Salomon To Build B2B Site

Adidas-Salomon AG's Canadian subsidiary, Adidas-Salomon Canada, has tapped Irvine, Calif.-based Magic Software Enterprises Ltd. to provide the company with software tools and training to develop one of its first business-to-business e-commerce sites. The new site is intended to help the world's second-largest sporting goods maker extend its supply chain by giving customers access to information about sales, order status and payment information via the Web.

Visa Taps eForce for Tech Consult, App Dev

Visa U.S.A. Inc. has hired Hayward, Calif.-based eForce Inc. to provide technology consulting and application development services to aid in building a new infrastructure for Visa Direct Exchange, an Internet-based private financial payments network. The new infrastructure is expected to help Foster City, Calif.-based Visa and its member banks introduce new services to merchants and cardholders.

Energy Firm Launches 3D E-Learning System

MidAmerican Energy Holdings Co. in Des Moines, Iowa, has launched the MidAmerican Learning System, a Web-based system developed and hosted by GeoLearning Inc. in West Des Moines. The system is designed to train MidAmerican's 10,000 employees in computer skills and professional development topics, as well as meet regulatory compliance and certification requirements.

From Wired to Weird: Books on Fixing IT

New Economy? Pfah. These books cover how to make the tech economy really work

Making IT Better: Expanding Information Technology Research to Meet Society's Needs, *by the Computer Science and Telecommunications Board of the National Research Council (National Academy Press, 272 pages, paperback, $34.95).* Count on the National Science Foundation, which underwrote the research for this book, to look at the big picture about life and IT, while the rest of the publishing world is focused on how-to tech books and New Economy apologia.

In fact, what the researchers do here is ask the right questions about IT and society, without necessarily coming up with any of the answers. This academic metastudy focuses not on IT, but on research about IT, where it's being done and by whom, and how research about IT may improve IT and society as a whole.

The report accomplishes its academic purpose but won't be terribly useful to IT managers in the trenches. If you're looking to go into research, this is the place to start. Otherwise, stick with something more down to earth.

— Kevin Fogarty

What could be more down to earth than project management? More specifically, what could be more down to earth than **The Project Surgeon: A Troubleshooter's Guide to Business Crisis Management,** *by Boris Hornjak (Project Management Institute, 130 pages, paperback, $34.95).* The publicists pitch this one as a hands-on troubleshooting manual for operational managers — and they're not far off.

Although the book isn't specifically about IT, the guidelines that Hornjak lays down can be applied by almost any IT manager who has to regularly put out fires while simultaneously moving forward on several fronts.

Hornjak, a 17-year veteran project manager, covers business recovery in three parts — Emergency Management, Crisis Management and Crisis Prevention.

Emergencies are projects handled quickly, Hornjak writes; they have a beginning, middle and an end and can be metered, guided and analyzed, just like any other project.

Almost more valuable than the prose and the tips are the charts, checklists and examples of the analytics that not only mark a project's progress, but also show when it should be cut loose and when it's already too late to do so.

But if you're not a project manager, don't even open the book; knowing the details on how badly major projects can go wrong will only keep you up at night.

— Kevin Fogarty

One of the most puzzling questions facing modern businesses, especially Web-based organizations, is how to decipher whether and when intellectual property needs to be paid for or protected. On the surface, it seems obvious, but the Napster controversy alone demonstrates that it's not.

Copyrights and Copywrongs, The Rise of Intellectual Property and How it Threatens Creativity, *by Siva Vaidhyanathan (New York University Press, 189 pages, paperback, $27.95),* explores the history and restrictions of copyright law and argues that copyright is more like protecting a monopoly over specific information than protecting the rights of an author.

Vaidhyanathan, a media studies specialist and cultural historian who teaches at New York University, introduces the digital copyright question and how it should be applied to online content. The problem, however, is that he doesn't come up with an argument more convincing than that you can set creativity free by not restricting it too tightly with the binds of intellectual property.

Tell that to the judge who slammed the door on Napster.

— Kevin Fogarty

Get Weird! 101 Innovative Ways to Make Your Company a Great Place to Work, *by John Putzier (Amacom Books, 178 pages, paperback, $17.95).* OK, the tech hiring market isn't quite as desperate as it was a year ago. But hiring and retaining the right people is still a challenge, and Putzier, founder of Prospect, Pa.-based human resources consultancy FirstStep Inc., suggests a ton of cutesy tricks designed to get or keep employees engaged.

Most of his ideas are too goofy for the post-dot-com generation, like using airplane banners for recruitment.

Other suggestions include taking a survey of employees' skills and their ideas on how the company can best utilize their abilities, encouraging creativity by letting staffers join projects they've come up with themselves, offering public recognition in many ways, and eliminating bureaucratese. These seem like useful, but not radical, innovations.

Still, most of the ideas in the book cost little or nothing, which is valuable in the current economic environment. And even if only one suggestion would work in your organization, that's probably worth the price of the book.

— Kevin Fogarty

The Wireless Web: How to Develop and Execute a Winning Wireless Strategy, *by Bryan Bergeron (McGraw-Hill, 272 pages, hardcover, $24.95).* This is a solid introduction for nontechnical executives who are looking for a primer on wireless technologies.

Bergeron, a Harvard Medical School and MIT professor,

provides useful insights on how key technologies and customer needs in this segment are converging.

The language in the middle section of the book, which describes various wireless technologies and protocols such as cellular digital packet data and Wireless Transport Layer, can be a bit dry. But Bergeron does a decent job of describing what nontechnical executives need to know about wireless gadgets. This lays the foundation for the third and final section of the book, which focuses on economic and legal issues.

— Thomas Hoffman

Dear Career Adviser:

I have a bachelor's degree in computer science and business and a master's in computer science. I also have three years of government IT experience in computer security design. I'm interested in computer forensics. What opportunities are there for me in private industry or consulting? — HIGH CRIME

Dear Crime:

Your three years of experience in the security area put you well ahead of the curve as security moves from a subject that's of interest only to the Department of Defense and becomes an area of mainstream concern and spending, says John Stubbs, vice president and national practice leader of the network integration practice at Ciber Inc. in Greenwood Village, Colo. You just need to decide where you want to put your experience to work.

The difference between security and forensics is the occurrence of a crime, notes Stubbs. Both areas are interrelated, since there are always new tools and new hacks happen every day — although they often remain undiscovered for a while, so the detective work, and hence the forensics, could begin as much as six months after a crime is discovered. Nonetheless, the area you want to concentrate on goes beyond firewalls, virtual private networks and antivirus software to true security systems architecture that engages security at the root level of a company's applications and processes.

As a consultant, you would be quite valuable if you understood products from companies like Securant Technologies Inc. in San Francisco or Netegrity Inc. in Waltham, Mass., and knew how those tools integrate with directory or metadirectory services.

You also need to understand privilege management — the process of granting people access to a system, public-key infrastructure and digital certificates. Assessment and penetration services are also hot areas, says Stubbs. For companies to understand what to fix, they need to understand where they are.

Dear Career Adviser:

I hold bachelor's and master's degrees in computer science and have five years of work experience, including three in the U.S., where I'm a permanent resident. I'm experienced in application development in C, C++, Java, XML and HTML.

I have worked on a variety of applications, including an order/product/billing tracking system, a client tracking system and an employee management system. I want to advance to a senior or team leader position. How do I do that?

— QUESTIONING HOW

Dear How:

A year ago, a person with three years of programming experience and a master's degree in computer science could find senior programmer or team leader positions, says Talia C. Rodriguez, a technical recruiter at Attract Professional Staffing Inc. in San Jose.

However, a strong academic background and just a few years of programming experience, or learning a slew of new languages, won't help you make the jump today because you're now competing with hundreds of other candidates who have similar backgrounds and similar software and systems expertise. If you sincerely want to upgrade your career, start thinking about the qualifications that make a person a strong leader, beyond simply writing code, says Rodriguez.

If you haven't done so already, start taking on more responsibilities in coordinating with other members of your team. Then be sure your résumé shows that you understand the general market and business environment surrounding your product. Demonstrating this kind of understanding indicates that you have the potential to communicate with the sales team and customers to make sure the product actually sells in the market for which it's intended.

Finally, Rodriguez points out that the job market is changing. Last year's demand for software developers has shifted to today's increasing demand for hardware designers. You may need to simply wait things out.

PAM BAKER, is an expert in high-tech careers and recruitment. Send questions to her at www.computerworld.com/career_adviser.

Dear Career Adviser:

I'm a technical recruiter who has done a number of staffing projects. Would learning software such as Microsoft Project increase my opportunities?

— PROJECT STAFFER

Dear Staffer:

Not necessarily, since technical recruiters who have managed staffing projects aren't the same as project managers developing code, says Wayne Willis, a venture adviser in Los Altos, Calif.

Project management skills, however, may increase your ability to find work as a recruiter if you can create a task list that involves interrelated dependencies, such as assigning resources, tracking progress and creating control reports.

Also learn to delve into financial statements and read up on general and project management, particularly on Critical Path Method planning, Gantt charts and project tracking and reporting methodologies. ▶

EXECUTIVE TRACK

Spherion Corp., a personnel consulting firm in Fort Lauderdale, Fla., has named Douglas P. Cormany as its CIO. He recently served as CIO at NationsRent Inc., a construction equipment rental company also in Fort Lauderdale. Prior to holding that position, Cormany was CIO at AOL Time Warner Inc.'s Book-of-the-Month Club Inc. unit in New York.

First Defiance Financial Corp. in Defiance, Ohio, has promoted Lawrence A. Ball to CEO of The Leader Mortgage Co., its mortgage banking subsidiary in Cleveland. Prior to this appointment, Ball served as CIO at First Defiance. He began his career at Leader Mortgage in 1971.

Cincinnati-based Federated Department Stores Inc. has named James J. Amann as executive vice president of strategic initiatives and Larry Lewark as CIO. Amann has served as CEO of the company's Financial, Administrative and Credit Services division since 1996. In his new role, Amann is expected to develop and install new merchandise systems throughout the company, serve as chief privacy officer and undertake a comprehensive review of the retailer's capital and expense investments in technology.

Effective Sept. 1, Lewark, the current chief operating officer of IT arm Federated Systems Group, will become CIO of the parent company and retain his current position. Lewark began his career at Federated Department Stores in 1970.

Woburn, Mass.-based PolyMedica Corp. has promoted George J. Narr Jr. to CIO. Most recently, Narr served as senior vice president of information systems at Liberty Medical Supply Inc., a Port St. Lucie, Fla.-based unit of PolyMedica. In this role, he was instrumental in the development of the company's mail-order distribution system, as well as billing and customer-monitoring software. PolyMedica is a national medical products and services company.

The Automotive Industry Action Group (AIAG), a Detroit-based nonprofit trade association consisting of 1,600 automotive and truck manufacturers and suppliers, has promoted Sally L. Fugar to serve as its e-commerce program manager. Prior to her appointment, Fugar was responsible for developing and promoting the association's supply chain. Before joining AIAG, she worked as the senior electronic data interchange analyst in the Global Supplier Electronic Communication Group at Ford Motor Co.

IPrint Technologies Inc., a Menlo Park, Calif.-based online printing firm, recently tapped Kieran Chung as its new CIO. Chung previously served as vice president of IT operations at AutoNation Inc. and as CIO at SkyTeller LLC. He also held executive positions at System One Amadeus and Bank of America Corp.'s Latin American/Caribbean division.

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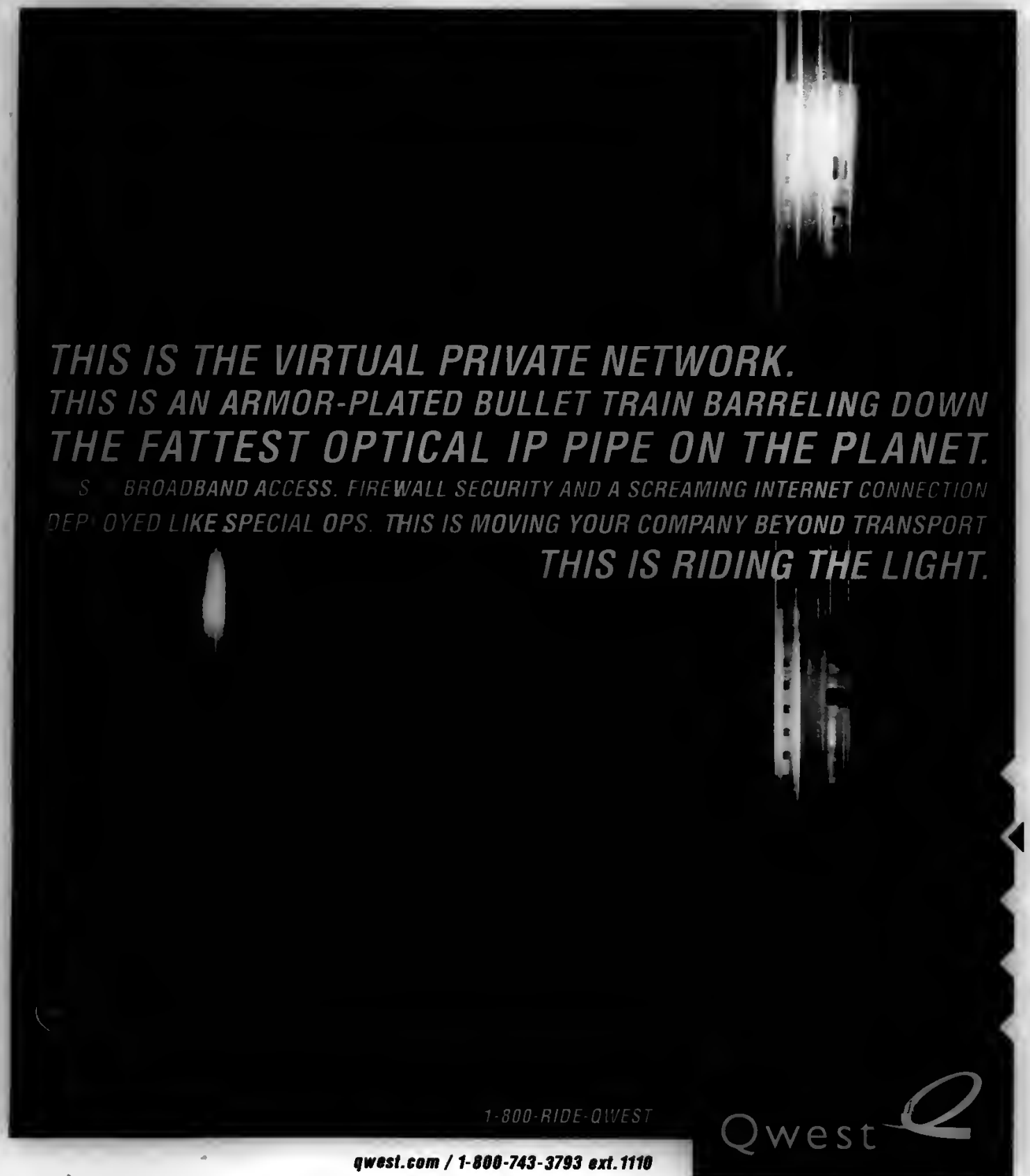

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TECHNOLOGY

SECURITY JOURNAL

After deploying and running a large intrusion-detection system, security manager Vince Tuesday thought he knew all the answers. A rigorous course at the SANS Institute sets him straight. ▸ 43

HANDS ON

The Microsoft machine grinds on, releasing a new version of its Office suite soon after Corel's WordPerfect Office 2002 hit the shelves. *Computerworld* takes a look at both suites and asks whether it's worth it to upgrade. ▸ 44

EMERGING COMPANIES

Fireclick is hoping to carve a niche for itself with a unique approach to accelerating Web content over the Internet using predictive-caching technology that downloads content to a user's browser before he asks for it. ▸ 52

QUICKSTUDY

Network sniffers are diagnostic software applications, often bundled with hardware devices, that provide protocol-level analysis of data flowing through a network, packet by packet. Find out more in this week's tutorial. ▸ 53

MORE
Consulting.....54

DAVID STRICK

TROLLING FOR DATA TREASURE

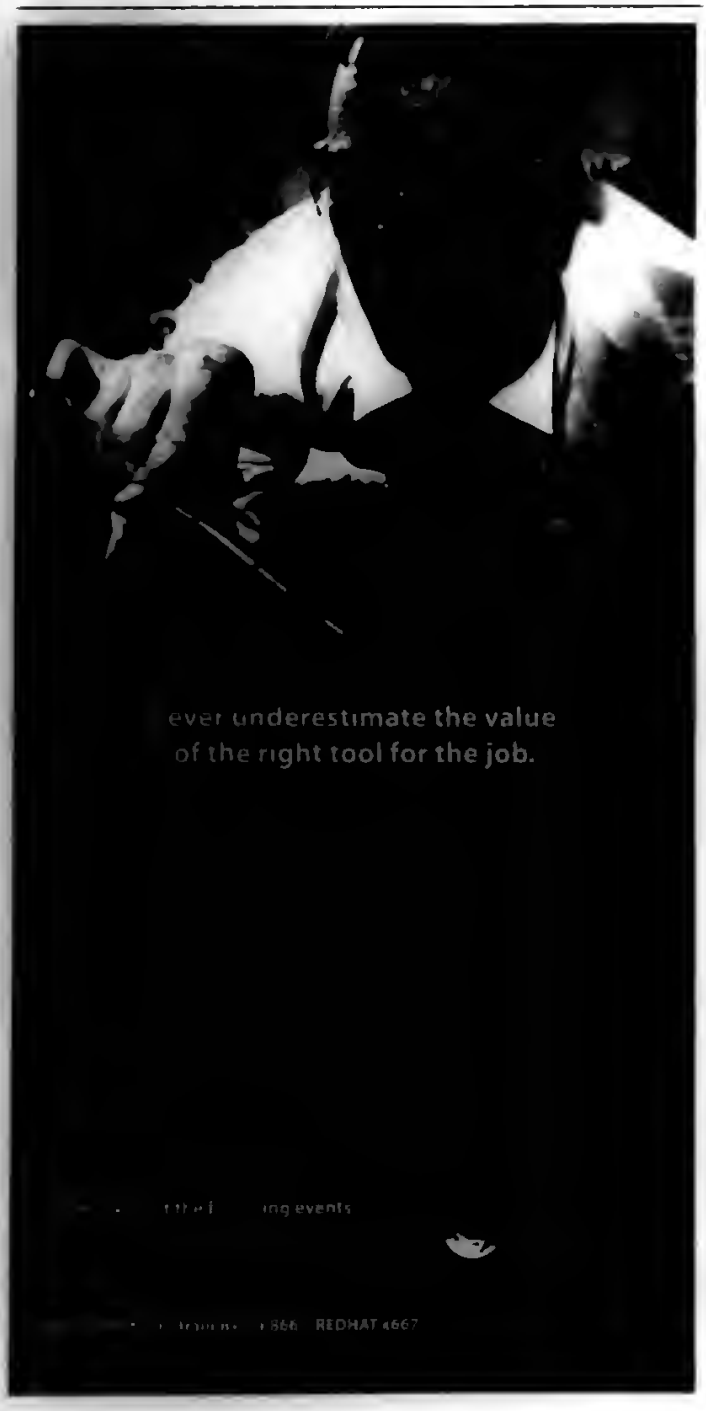
ANALYZING DATA IS HARDER THAN EVER as e-commerce generates more and more data from and about customers and suppliers. From semiconductors to pharmaceuticals, companies are seeking new tools to better understand their businesses and even to streamline the analytic process itself. And as several users attest, tool vendors are offering some capable instruments with which to make sense of all that information.

48

BlackBerry Wireless Handhelds Go out to the Ballgame

BY MATT HAMBLEN

Toronto Blue Jays Manager Buck Martinez recalls that one of the first wireless e-mails he ever saw wasn't exactly a long-distance missive. It was in June, shortly after the Major League Baseball team's players, coaches and front-office employees started using BlackBerry handhelds from Research In Motion Ltd. (RIM) in Waterloo, Ontario. "A coach in the back of the bus on the way to a game e-mailed us in the front to say, 'Hey, it's hot back here!' " Martinez said in an interview during batting practice before a recent game at Toronto's SkyDome. Everybody laughed when the message was sent, but they were intrigued by the technology, he said.



Last month, Blue Jays management distributed 70 BlackBerry handhelds to top-level business managers, coaches and players. The devices are connected to the team's e-mail server. The Blue Jays don't credit wireless e-mail with helping the team win games, but they do say it has solid business value.

Business managers say it cuts down on the use of cell phones, makes meetings more efficient and gives players — some of whom are away from home nearly 300 days a year — an inexpensive way to keep in touch with the organization, their families and one another.

E-MAIL gives Jose Cruz better access to coaches.

The team's BlackBerries also offer wireless Internet access.

The tiny keyboards and size of the BlackBerry handhelds didn't prevent any of the six Blue Jays users interviewed from getting connected easily, except for manager Martinez, who confessed three weeks after the team announced the rollout to dozens of users that he hadn't used his device.

"All the [other] coaches all use it very effectively for checking scores and staying up to date" on strategies for games and the conditions of players, said Martinez.

Carlos Delgado, first baseman for the Blue Jays, said he was a BlackBerry user eight months before the organization distributed them to others. He said it's a convenient way to reach family and friends on the road. BlackBerries operate in an always-connected mode that means users don't have to search a menu to receive a message, he said.

Calling himself an "electronics junkie," center fielder Jose Cruz Jr. said he has tried six handhelds and a laptop but likes the BlackBerry best for e-mail. He said wireless e-mail enhances his access to coaches. Both players said they send many messages a day.

First base coacb Garth Iorg sends and receives up to 40 messages per day and stores his daily schedule on the device. Setup was easy enough that Iorg said he didn't have to read the instruction manual.

The players and Iorg all said they would like to see color screens on the BlackBerries, as well as more graphics and video.

The BlackBerry has cut Paul Allamby's cell phone use by half. Thanks to the BlackBerry, "I don't need to crate around a laptop" on short trips, said Allamby, who is senior vice president of marketing and sales.

Passing game statistics back and forth is simpler with a BlackBerry than it is witb a voice phone or a laptop, Allamby said. "Our lives are ruled by statistics in this business," he said.

Mark Lemmon, vice president of corporate partnerships and business development for the organization, said that when he first saw the RIM model 957 and its tiny keys, he thought, "This will he interesting." But he taught himself to use the keys, and be said he "can really fly on it" with his thumbs. The device stores shortcuts for words that users call up to send messages in a hurry.

"The BlackBerry is arguably the best wireless e-mail device in the world," said Alan Reiter an analyst at Wireless Internet and Mobile Computing in Chevy Chase, Md. He added that the BlackBerry has plenty of functionality without a color screen or enhanced graphics.

IDC in Framingham, Mass., estimates that there are 220,000 BlackBerry users worldwide at 10,000 companies.

Grand Old Game Goes High Tech

The Toronto Blue Jays in June deployed 70 RIM BlackBerry wireless handhelds to top-level business managers, coaches and players, some of whom spend 300 days a year away from their homes.

Handhelds are tied into the organization's e-mail server to provide always-on communication and are equipped with Internet access.

Employees use the BlackBerry devices to send text messages within the organization and to family members and personal business contacts.

SANS Course: Security Manager's Boot Camp

A former information warfare officer teaches Vince a few things about intrusion-detection systems

BY VINCE TUESDAY

RECENTLY, I attended ooe of the SANS Institute's Global Information Assurance Certification (GIAC) training courses, to become a GIAC Certified Intrusion Analyst (GCIA). The instructor, Stephen Northcutt, is a fascinating fellow — his biography reads like the script to the movie *Under Siege*. In the film, Steven Seagal plays a character who is demoted from international antiterrorist expert and Navy SEAL to cook. In Northcutt's case, be hasn't been demoted, but he's held an equally eclectic range of jobs. He was a cook, a U.S. Navy helicopter search-and-rescue crewman and a cartographer before moving into information security.

SECURITY MANAGER'S JOURNAL

Northcutt was the original developer of Shadow, a U.S. Department of Defense intrusioo-detectioo system (IDS), and worked as the chief information warfare officer at the Ballistic Missile Defense Organization. These days, be's the director of the SANS GCIA training program.

Not for Faint of Heart

So that's what the teacher was like — but what about the course? Well, I'm still undecided. I eojoyed it, but I don't think I'll be sending my team to it. Northcutt speot a day plunging the depths of IP. This was a useful refresher for the principles of networking courses I took years ago, but it was fast and hard and certainly not an introduction for those who hadn't been exposed to the details before.

Northcutt knows his material, but the questions at the eod of each section clearly bored him, so he akipped through them without ensuring that the students understood. There were about 50 students in the class, so if you started slipping behind, there was no chance he'd notice, and there wasn't any opportunity to get help or ask questions.

The highest-quality instructors are never cheap, and Northcutt is clearly one of a kind. However, teaching assistants are much more affordable, and considering the course's price tag of $1,850 per student, perhaps the Bethesda, Md.-based SANS could afford to provide a few. A couple of staff members walking up and down the rows, making sure everyone was keeping up, would have made the course more accessible. They wouldn't need the charm or history of the teacher, just a reasonable knowledge of the material.

The next day, Northcutt ran through the details of TCPDUMP, a powerful utility for digging into the headers and structure of network traffic. The day left me itching to get my hands on the tool and collect data from our external connections to see if I could find the same unusual packets that hit the U.S. military.

The last two days (including a Saturday — SANS expects a high level of dedication from its students) covered intrusion detection at a higher level. Most useful, this included a series of examples of unusual traffic, classified as benign, hostile or unknown. Northcutt has a tendency to digress into matters of conspiracy theory and paranoia, but when you've defended the high-value assets that he has, then perhaps it stops being paranoia and is merely commoo sense.

The course was tough. The days were full and long, and the associated tests are rigorous. SANS didn't give the tests during the course. Instead, a week later, I received a log-in to the institute's Web site. This enables me to review the material and take the practical examination. The process takes eight weeks, and I must write two papers to receive my certification. This is a stunning improvement on the trivial multiple-choice questions about course material that plague other IT courses. Most training programs are reluctant to fail their students, as that implies that the teaching wasn't up to scratch.

I'm working away at my practical exam at the moment. It does have the whiff of SANS using its students to produce its content and making them pay to do so. I have to write up an article on the state of the art of IDS, find and document some attacks against my networks and provide a review of some IDS data from a university site. No doubt, it's cheaper for the university to link op with SANS and get GCIA students to provide coverage than it is to hire more security staff. Even so, the practical exam is testing skills that I actually use, and I'll certainly look for the skills it tests in prospective hires.

Other Training Options

SANS also offers a range of other courses, covering auditing, Unix, Microsoft Windows and forensics, plus a comprehensive certification that I'm tempted to shoot for — the GIAC Security Engineer (GSE). This covers all of the key technical areas of security and proves that you really know what you're doing in this field. I'd certainly be eager to interview someone whose résumé included this certificate. It's always hard to get time and permission to leave the office for a week, so I'll be trying one of SANS's Web-based courses next.

What other security certifications are there? Well, I'm also going to try the Certified Information Systems Security Professional program. It looks like a much broader and high-level qualification, more focused on managers than at technical specialists.

And for the truly dedicated, there's the option of a master's degree or doctorate in information warfare or information security. I've been contacting local universities to try to find something that might fit into my schedule.

What have you found useful for professional developmeot in your security team? Drop me a line in the Security Manager's Journal forum at *www.computerworld.com/security*.

THISWEEK'SGLOSSARY

Shadow: A U.S. Department of Defense IDS that focuses on traffic headers rather than session content. The software, which is available for free at *www.nswc.navy.mil/ISSEC/CID/*, isn't for the faint of heart, but if you want to identify a new attack, this is the kind of tool you must know inside and out.

GCIA: Global Information Assurance Certification Certified Intrusion Analyst, SANS Institute's certification for intrusion detection. Once you complete this program, you'll be competent to protect an e-commerce site or even a high-risk government network.

CISSP: The Certified Information Systems Security Professional, a certification offered by the International Information Systems Security Certifications Consortium Inc., also known as (ISC)². For more information, visit its Web site at *www.isc2.org/*.

LINKS:

www.sans.org: Where to go to read up on one of SANS Institute's courses yourself, including the Web-based content.

www.tcpdump.org: Visit this site to download TCPDUMP, a tool for viewing network packets to identify unusual behavior.

www.incidents.org: Worried about what you're seeing on your demilitarized zone? Share with everyone else and make sure you aren't alone. Incidents.org is the Web site for the continuing SANS work in this area. It helps people identify new attacks, share information and exchange best practices on running a large set of IDS sensors.

MOREONLINE For more on the Security Manager's Journal, including past journals, visit www.computerworld.com/securitymanager.

■ This week's journal is written by a real security manager, "Vince Tuesday," whose name and employer have been disguised for obvious reasons. Contact him at vince.tuesday@hushmail.com or go to the Security Manager's Journal forum

Moving To a New Office Suite?

Microsoft and Corel trot out new releases of their mainstream productivity apps. Should you bother to upgrade? By Russell Kay

TWO YEARS HAVE passed since Microsoft Office 2000 and Corel WordPerfect Office 2000 were introduced. Now their successors, the 2002 editions, have hit the shelves. So ask yourself, IT manager, should you upgrade? Do you have a choice? Is there any reason to change from one suite to the other?

I've been using elements of both products for a couple of months, and I have mixed feelings. In this review, I concentrate on each program's word processor, simply because that's the component I use most and can best evaluate.

Here are some highlights:

- Microsoft Corp.'s Office XP (OXP) has some new features, notably the task pane and smart tags, that make it far easier to use many functions that used to be buried deep in menus and submenus.
- Ottawa-based Corel Corp.'s Corel WordPerfect Office (WPO) still seems more capable and easier to use for things such as file conversions, label printing and complex formatting that's just shy of desktop publishing.
- OXP seems slightly less stable (in other words, it's more crash-prone) than Microsoft Office 2000, even when it's running on Windows 2000.
- WPO, like its predecessor, still seems to be less stable than the Microsoft competitor.
- OXP's activation requirement (more on this later) is abominable and likely to be a nightmare for many IT professionals.
- Word 2002 has added a Reveal Formatting option in a task pane that makes it far easier to see what's going on with copy. However, it's still not as useful as WordPerfect's Reveal Codes window, which identifies exactly what's going on with each character of your copy. (For more about formatting, visit our Web site at *www.computerworld.com/formatting.*)
- Excel, PowerPoint and Access 2002 all show new functionality, but there's little to get worked up about. Similarly, QuattroPro and Corel Presentations are improved, but they're not different enough to justify a change.
- WPO, like the 2000 version, includes the ability to save a document in Adobe's portable document format. This feature is quite useful for complex documents headed for Web use. It's not available in OXP.

Hardly chastened by the federal courts, Microsoft seems more anxious than ever to strengthen its control over users, even large enterprises.

I've seen estimates that more than 30% of all Microsoft Office installations are illegal. No one supports illegal installations, but the remedy that Microsoft has chosen to implement in its new suite is almost guaranteed to cause more problems and upset more users than it's likely to be worth.

When you install Office XP, you give it the now-expected 25-character unlocking key. The installation proceeds to completion, and everything seems normal. Then, when you open an Office application, you're informed that you must "activate" the program with a phone call or Internet connection. If you fail to do that, the program works 49 more times and then locks up. And do try to activate it over the Internet, otherwise you'll have to copy down and input an activation key that's 42 characters long! This seems like some kind of new benchmark in hostility toward users.

Third Time's No Charm

The kicker is, you're allowed to activate the software only twice. If your hard drive or your Windows operating system has a crash that necessitates reinstalling Office XP, you've used up your second install. Have another crash, and you're likely to find yourself having to buy another copy of the program you already "own." Officially, Microsoft says you can explain your situation to a customer service representative and ask to be allowed to reactivate the program, but early reports from a variety of sources indicate that that isn't likely to work.

If you're an IT manager at a large enterprise that's contemplating upgrading from Office 97 or 2000 to XP, it will be possible to get a license for a single unlock key that automatically activates the program on installation.

However, if you're a smaller customer, such as a reseller, systems integrator or consultant, then you're probably out of luck and will have to activate each new machine individually.

WordPerfect Office, on the other hand, installs the way it always has; the serial number is optional, required only for tech support and not for actually using the program.

Activation, by the way, is also a feature of Microsoft's upcoming new operating system, Windows XP. Isn't change wonderful? ◗

What's an IT Manager to Do?

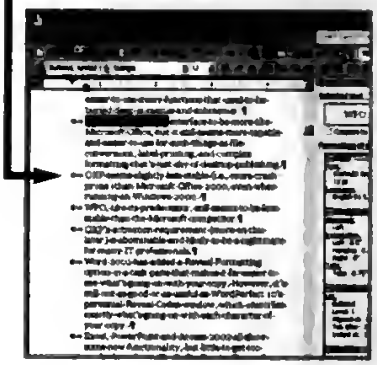
I'll cut to the chase and offer my recommendations about these two programs:

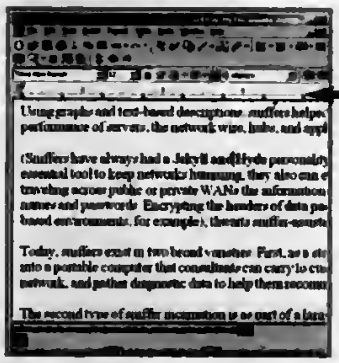
Office XP

- If you're still living with Office 95 or 97, consider upgrading to XP. It's a far better program that's both more stable and easier to use. If you can get a multiple-activation license, even at extra cost, do it.
- If you're reasonably happy with Office 2000 and it seems to do all or even most of what you need, then stick with it and don't bother to upgrade. Your users know how to use the existing program, and a change now will be expensive and disruptive with relatively few pluses to justify it.
- If, for some reason, you're still running Windows 95 and plan to continue doing so, forget about an upgrade. Office XP won't run on that operating system.

WordPerfect Office 2002

- If you're already a WordPerfect partisan, you'll like the new version, and upgrades will be relatively inexpensive. Do it – if only to help ensure that the program will continue to be around and available.





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Free Wireless Pays Off

Savvy enterprises are using unlicensed wireless LANs and wireless ISPs as low-cost broadband data networks. By Bob Brewin

THE ALASKA MARINE Highway System has probably pushed mobile wireless LAN technology to its ultimate, says Dan Judd. An analyst/programmer at the Alaska Department of Transportation and Public Facilities, Judd helped develop and deploy a ship-to-shore wireless LAN communications system for the AMHS, which operates ferry ships serving ports in south central and southwest Alaska, the state's panhandle and the Aleutian Islands chain.

The AMHS installed wireless LAN gear on its ships, with the antennas mounted high on the communications masts. And like a growing number of organizations, it's running that equipment in license-free spectrum, communicating with its nine ships on the 2.4-GHz band.

The shipboard systems communicate with access points installed at terminals in 12 ports on routes extending from Bellingham, Wash., the southern terminus of the Inside Passage panhandle service, to Kodiak Island, the jumpoff port for the Aleutian Islands.

Looking at the geographical spread of this system, "I doo't know of anyone else who is doing what we are doing with wireless LANs," says Judd.

But the AMHS isn't alone in finding ways to use unlicensed spectrum.

The multibillion-dollar spectrum auctions conducted by governments around the world in recent years have seemingly limited access to the airwaves to well-financed global telecommunications firms. But the U.S., Canada, Mexico and some Asian countries have also allocated enough license-free spectrum to allow innovative users to develop and deploy wireless broadband networks at relatively low cost.

License-Free Infrastructure

These license-free bands (see chart) serve as the building blocks for industry-standard wireless LANs used to support users at home or in a corporate or academic campus. They also support fixed wireless systems embraced by a growing number of wireless Internet service providers (ISP) positioning themselves as alternatives to telco or independent Digital Subscriber Line (DSL) providers.

Throughputs on these wireless systems typically run from 512K bit/sec. to 11M bit/sec., but technology enhancements will soon boost speeds from standard equipment to a range from 32M to more than 50M bit/sec.

Although unlicensed wireless LANs may not seem ideal for mobile operations (ranges from an access point — an antenna, electronics and a connection to a wired network — run in the hundreds of yards), several eoterprise users like the AMHS have adapted or plan to adapt them to support short-range mohile wireless applications.

As soon as an AMHS ship comes within range of the wireless LAN system installed in the port — tested to a maximum of three and a half miles at sea — the shipboard system locks oo and starts transferring e-mail at the rate of 1.5M bit/sec. from an IBM Infinity server with a 70GB hard drive, which is hooked up to 12 workstations on a wired LAN and a Cisco Systems Inc. router oo each ship. On shore, the wireless LAN system receives the data and sends it to another Infinity server that routes it to an intranet, which transfers the data from the ships to AMHS's back-end systems in Juneau.

Data transferred by the store-and-forward e-mail system includes non-time-sensitive information such as crew schedules, supply orders for the ships and their onboard restaurants and snack bars, and other types of administrative traffic. Each of the ships also runs an Oracle database, which holds engineering maintenance data. Judd says he'd eventually like to see these databases updated electronically via the wireless LAN system.

Adapting a system designed for an office campus environmeot to shipboard use has its limitations, Judd says. The inherently limited range of the

BAND	CURRENT MAXIMUM RAW DATA RATE	FUTURE RAW DATA RATE

• Can be used by wireless LANs or fixed wireless installations for point-to-point service to connect two enterprise locations or point-to-multipoint service used by wireless ISPs. Unlicensed and free for use in North America, Western Europe and parts of Asia.

system limits the communication time in each port to roughly 90 minutes: The ships usually pick up a signal 20 minutes out from each port, spend 45 to 50 minutes in port and have another 20 minutes of connectivity outbound. The AMHS has also limited the size of attachments ever since someone tried to send all nine ships a file that was so fat that it choked the network.

Despite these limitations, the wireless LAN system emerged as the best choice the AMHS could make, based on a cost/benefit analysis, says Judd. The AMHS considered satellite service, which would have provided continuous communications, but ruled it out due to high costs and low data-speed rates of roughly 2.4K bit/sec. The state also considered adapting high-frequency radios already installed on each ship to handle data, but that offered only 300K bit/sec. and would have required the AMHS to build its own massive, shore-based high-frequency transmitter site.

Other mobile users include FedEx Corp., which plans to equip its delivery fleet with industry standard 802.11b wireless LANs. These networks are designed to dump broadband data (including fat digital signature files) when a truck nears a terminal and automatically senses an access point. Cleveland-based Penske Logistics plans to install wireless LAN hubs on 4,000 trucks that will provide high-speed links to drivers as they unload and scan cargo, with that data pumped into Penske and customer back-end systems when the truck nears a terminal, just as in the FedEx system.

"I DON'T KNOW of anyone else who is doing what we are doing with wireless LANs," says Dan Judd, an analyst/programmer at the Alaska Department of Transportation and Public Facilities.

Unlicensed Options

Users in fixed installations have turned to unlicensed wireless LANs to avoid the costs of cabling and desktop hardware, and they're choosing unlicensed wireless ISPs as an alternative to DSL service.

Ed Golebiewski, controller at the Community Health Center in Buffalo, N.Y., says a quick cost/benefit analysis showed that installing a 2.4-GHz wireless LAN from Cisco beat a wired installation when the outpatient clinic moved into a new building last August. The clinic has 25 examination rooms, but a maximum of only 15 doctors are on duty at one time.

"It would have been very expensive to put desktops in all the offices, so I just bought 15 wireless LAN laptops and let the doctors walk around with them," Golebiewski says.

The clinic network hooks into the outside world through another wireless service, a fixed wireless link from Clearwire Technologies Inc. in Arlington, Texas, through its local affiliate, Buffalo-based Meridian LLC.

"They had me up and running in a week. . . . I'm getting 512K bit/sec. up and 256K bit/sec. down. I've done speed tests, and I'm getting my full bandwidth," says Golebiewski.

The clinic operates under strict federal Health Insurance Portability and Accountability Act guidelines, and Golebiewski says his dual wireless system meets the stringent security requirements of that act. And even though both his LAN and his wireless ISP connection operate in the same 2.4-GHz unlicensed band, the clinic "has not experienced any interference problems between the two systems."

Larry Wheeler, a Fort Wayne, Ind.-based communications consultant who has worked with the AMHS, calls unlicensed wireless ISPs "a good substitute for DSL." Equipment costs are five times higher for a licensed wireless system vs. unlicensed, with standard off-the-shelf LAN access points selling for as low as $300 to $500 and PC cards costing as little as $99.

But Wheeler says users need to know the limitations and downsides of unlicensed systems, including the potential for interference in larger cities.

Sooner or later, especially in large metropolitan areas, the 2.4-GHz band could be overwhelmed by the sheer proliferation of wireless LANs and multiple wireless ISPs, says Wheeler. "We're already seeing saturation in certain areas, including Chicago, Los Angeles and New York," he says. When that happens, users will need to seek out other, less-saturated wireless bands, including 5.3 GHz and 5.8 GHz.

CAVU Inc., an Orlando-based wireless ISP that operates under the e-Xpedient trade name, says it has all but eliminated interference problems by operating in the 60-GHz band with equipment developed by Harmonics Corp. in North Andover, Mass.

Unique physical characteristics of that band limit interference but also limit the useful range to approximately three-quarters of a mile vs. approximately 25 miles for the 2.4-GHz band, according to Brian Andrew, president and CEO of CAVU. The company currently offers the 60-GHz service in Miami and plans a gradual major-market roll-out of its system. Andrew says CAVU uses a mesh architecture, in which rooftop receivers communicate with one another and provide customer connectivity. The whole system is connected to a high-speed, Optical Channel 3 point of presence line provided by WorldCom Inc.

The 60-GHz-frequency band provides fiberlike bandwidth, Andrew says. "We guarantee 100M bit/sec. for $100 a month," he says.

Unlicensed fixed wireless installations are already more common than licensed services in the U.S., says Peter Jarich, an analyst at The Strategis Group in Washington. Last year, providers of unlicensed Internet access and phone services had revenues of $44.3 million. Jarich projects that will hit $734.4 million in 2005.

Jarich adds that due to the limitations of unlicensed services and the limited number of markets, "competition on this scale cannot be sustained." But for some users, unlicensed wireless will remain the answer to their data networking needs.

MOREONLINE

The market for chips for wireless LANs is booming.
www.computerworld.com/chipposts

Finding Pearls In an Ocean of DATA

Data analysis can be more crucial than ever in an economic downturn. By Robert L. Scheier

AFTER YEARS OF GORGING ON IT, CEOs and boards of directors have indigestion. They're demanding greater returns from their existing systems before buying more.

One way to deliver that return is through data analysis and data mining tools, which become even more important as every dollar earned — or saved — becomes more crucial.

Analytics "makes the difference between an average implementatioo of e-business or [customer relationship management] and an excellent implementation," says Frank Buytendijk, a senior research analyst at Gartner Inc. in the Netherlands. "It's in analytics where you assess and evaluate the effectiveness of what you're doing."

Buytendijk predicts that the demand for skilled analysts will triple between 2000 and 2004 and that by then, companies will be able to find only half the skilled analysts they need. Given that shortage, Framingham, Mass.-based market researcher IDC predicts that the market for analytic software will grow almost 28% between 1999 and 2004 to more than $6.6 billion.

From semiconductors to pharmaceuticals, companies will be seeking and using new tools with which to better understand their businesses and even to streamline the analytic process itself.

Giving Users the Data They Need

At International Rectifier Corp., an El Segundo, Calif.-based producer of power management semiconductors, manager of financial analytics Doug Burke says Hyperion Solutions Corp.'s Essbase 5.1 has allowed the company to "get a lot more out of our AS/400" midrange system by allowing the company to extract and analyze sales data very inexpensively. Rather than being forced to e-mail huge spreadsheets, which ties up network bandwidth, users can now retrieve dynamically calculated views of just the data they need, he says.

Burke says he expects more cost savings this summer when he deploys Version 6.1, which includes attributes that will allow users to dynamically analyze data across additional dimensions (such as sales area) without having to store those calculations and thus increase the size of the database. "That's a big payoff," he says, "especially wheo you want to scale this thing up to hundreds of thousands or even millions of products" to analyze.

When catalog retailer Blair Corp. relaunched its Web site in December, "we were looking from Day 1 how to be more profitable," says Jeff Parnell, vice president and general manager of e-commerce. The

> There are probably many cases where [data analysis] can save you as much as a week's worth of work.
>
> JOE LEBOWITZ, DIRECTOR OF YIELD AND PRODUCT ENGINEERING, TEXAS INSTRUMENTS

relaunch not only added many more products to the site but was also the first iteration of the site to be promoted in the millions of catalogs the firm mails each year.

The Warren, Pa.-based company wanted a Web clickstream analysis tool to tell it which areas within the site attracted the most customers and exactly why those browsing did or didn't buy, says Darren Schott, the company's director of marketing for e-commerce.

For the answers, Blair turned to IntelliVisor, an online analytic service offered by SAS Institute Inc. in Cary, N.C., to determine such things as which product categories suffered the most cart abandonment (customers ending their shopping process without completing the order) and which generated the highest conversion rates (turning browsers into buyers.) The application service provider model was attractive, Schott says, because Blair didn't have to develop the needed know-how in-house. SAS was a natural choice of vendor because Blair was a longtime SAS customer and the company could easily integrate its clickstream data into the SAS tools it already had, says Parnell.

Parnell declined to specify how IntelliVisor has helped the bottom line, except to say, "We feel very comfortable with the ROI equation." The payoff, he says, lies in "the fact you can make better decisions and make them more quickly."

Production Push

Just because the economy has slowed doesn't mean your customers have. At Texas Instruments Inc.'s Kilby manufacturing facility in Dallas, Joe Lebowitz, director of yield and product engineering, is pushing TI's equipment and processes harder than ever to make more-advanced components and do it cost-efficiently.

For example, with each increase in a processor's clock speed, TI must control its chip fabrication equipment and processes more tightly if it is to produce enough usable chips per silicon wafer to make a profit. For each wafer, Lebowitz says, instruments may collect upward of 100,000 discrete pieces of data, from the temperature of the wafer to the purity of the air passing over it. Each piece of equipment also generates data about its own performance as often as every millisecond.

"It is absolutely essential" to have tools that can help engineers find the often subtle relationships among the data, says Lebowitz, so they can quickly find and fix production problems.

Lebowitz is evaluating Spotfire Decision Site from Somerville, Mass.-based Spotfire Inc. as one of the tools used at the Kilby facility to gather and analyze such information. For example, he says, when inspectors began finding cache memory failures in some chips, Spotfire helped them discover that one tool was etching lines of a slightly different width than other tools were. Even though the tool was operating within its specifications, it wasn't operating precisely enough to generate as many usable microprocessors per wafer as the others.

Lebowitz couldn't estimate how much Spotfire might save at the Kilby facility but says, "There are probably many cases where it can save you as much as a week's worth of work." In a semiconductor manufacturing environment, saved production time can amount to millions of dollars in revenue, he says.

Before they began using Ottawa-based Databeacon Inc.'s namesake graphical analysis tool, the IT staff at Pfizer Italiana SpA's medical manufacturing facility was bogged down with routine requests for reports from users. One day, for example, a user might ask for an inventory report sorted by the Pfizer division for which the plant made a product, the type of business (such as animal health or pharmaceutical) within Pfizer under which the product falls, and the major product group into which the product is categorized, says business analyst Luca Michella. The following day, the same user might ask for the same information sorted only by major product group and business.

Not only was it time-consuming to pull the data and load it into spreadsheets, Michella says, but day-to-day differences in how he wrote the queries could generate inaccuracies.

With Databeacon, any user with a Web browser can create those reports himself and do it with a Web-based tool that requires no cumbersome updates to the software on his PC. Similarly, the time required to do quarterly analyses of quality control has been reduced from two person-days to minutes, says Michella. Previously, users had to search the manufacturing resource planning system for rejected lot numbers and the reason the lots were rejected. Now, Michella says, users can access Databeacon reports that pinpoint problem areas and allow users to drill down for more detail.

"Professional statisticians and analysts are a fairly scarce resource," says Fred Hulting, a senior research scientist at The Pillsbury Co. in Minneapolis. To shield them from routine report requests, he's rolling out Web-based statistical applications built on the StatServer decision-support tool from Insightful Corp. in Seattle. By building commonly used reporting capabilities into StatServer, users can now generate those reports themselves rather than call in an analyst, he says.

Like others, Hulting couldn't specify the application's benefits but says they have "greatly increased the capacity of my folks to spend more time with the business and focus on the bigger issues." The new applications leverage Pillsbury's existing network infrastructure, require no client software and run on a portion of a server the company already owns.

Pillsbury spent only $40,000 to license StatServer and the underlying S-Plus language used to develop the applications. Hulting and a colleague who was experienced in S-Plus developed the applications without outside assistance, but he warns that others without such experience will need consulting help.

Looking Ahead

International Rectifier is using Essbase not only to cut the costs and time it takes to collect data but also to standardize how the data is created to improve decision-making, says Burke. Using Essbase, the company has built one multidimensional data cube for inventory analysis and will soon roll out another to analyze sales by market sector, he says.

Using these common databases, "you don't have costs defined three different ways or revenue defined four different ways" across divisions, Burke says. "Whether people like the numbers or not, everyone agrees on the numbers" and can focus more on analyzing the data than gathering it, he explains.

As more users access common data through StatServer-based applications, Pillsbury is taking the opportunity to "provide some standardization and best practices" in how data analysis is done, says Hulting.

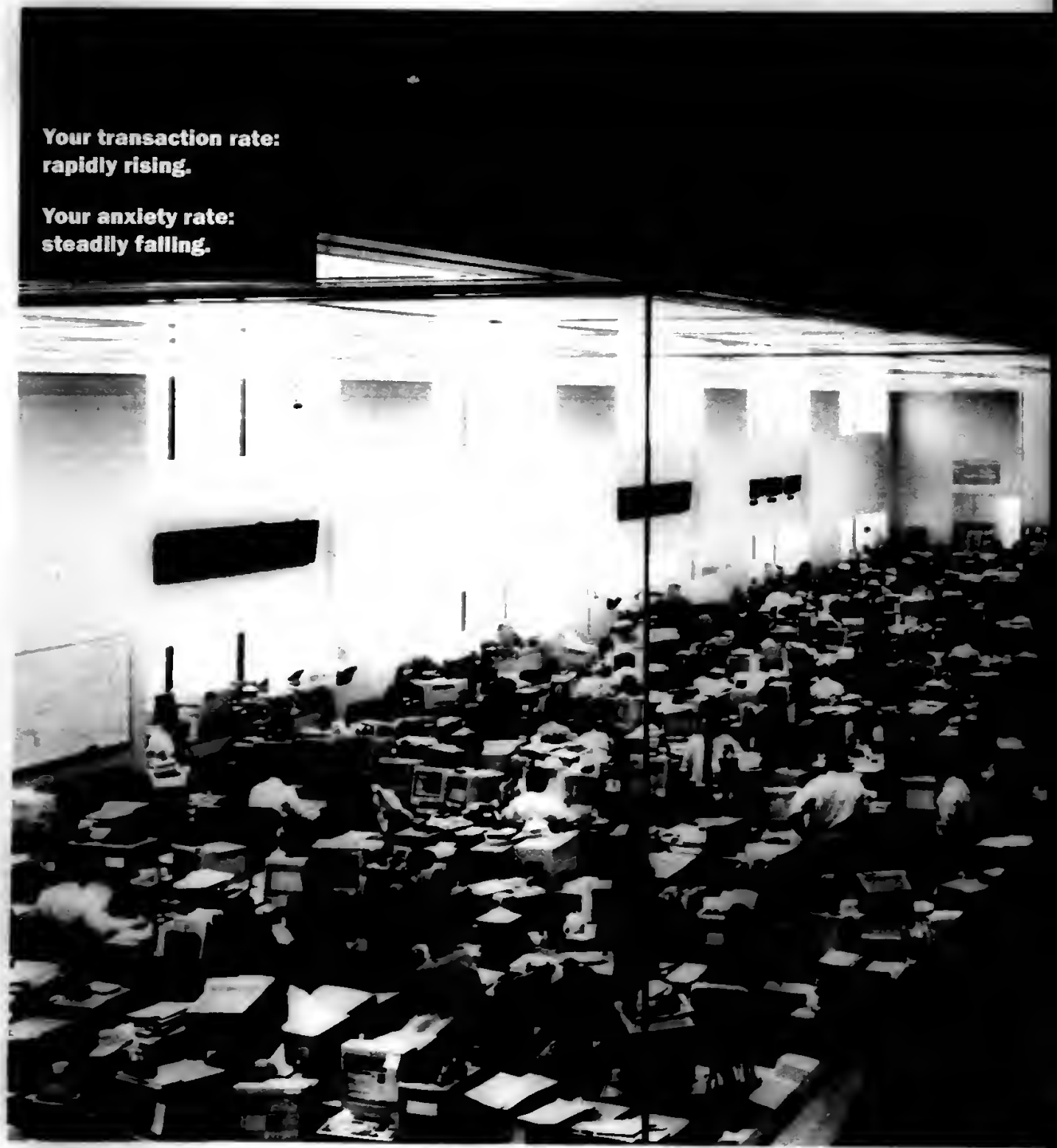
Gartner's Buytendijk says he thinks companies should centralize analysis functions so analysts can share best practices and find ways to automate routine report-generating tasks that users should do themselves. This gives analysts in the central business-intelligence office the time they need to work on the interesting projects that will keep them from defecting to other companies, he says.

Analytics won't guarantee that your company will make it through the slowdown. But some companies are betting that it can help them not only survive but also thrive when the good times roll again.

Scheier is a freelance writer in Boylston, Mass.

Data Analysis Tools

- IntelliVisor, an online analytic service offered by SAS Institute; offered as an ASP service hosted by Electronic Data Systems Corp. *www.sas.com*
- Spotfire Decision Site from Spotfire; one of a range of data analysis and visualization tools from the company, designed to graphically display hard-to-find trends and relationships. *www.spotfire.com*
- Databeacon's namesake browser-based data analysis tool; designed for ease of use. *www.databeacon.com*
- Hyperion Solutions' Essbase is one of the premier online analytical processing database servers; used in conjunction with applications from Hyperion and other vendors. *www.essbase.com*
- Insightful's StatServer is an analytic Web server based on the S-Plus programming language. *www.insightful.com*



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MICROSOFT SQL SERVER 2000. The company continues to grow and grow. And your system's transaction rates are climbing in lockstep with it. A big deal, for sure—but nothing to get anxious about. That's because SQL Server 2000 offers scalability for even the most demanding environments. So you know that no matter how much—or how fast—your system needs to expand, you'll have the tools to handle it.

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SQL SERVER 2000 BENCHMARKS

Application/Workload	World Record Results
SAP R/3 Sales & Distribution	20,000 concurrent users
TPC-C	688,239 tpmC[TM]
PeopleSoft 8 CRM	30,000 concurrent users
PeopleSoft Financials	13,000 concurrent users
J.D. Edwards OneWorld	4,000 concurrent users
Bapi	22,000 concurrent users

To get the full story on Microsoft SQL Server 2000 scalability, go to **microsoft.com/sql/worldrecord** Software for the Agile Business.

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SD Application Benchmark Users (average dialog response time of 1.91 sec, 2,015,330 processed order line items, 6,046,000 dialog steps/hour) were obtained using SAP R/3 release 4.6c, 3-Tier configuration, Windows 2000 Datacenter and SQL Server 2000 SP1 running on a Unisys ES7000 32 x Pentium III Xeon 900MHz, 2MB L2 Cache, 22.58 $/tpmC, available 5/31/01. TPC is a trademark of the Transaction Processing Performance Council, www.tpc.org. TPC results as of 6/12/01.

Caching Technology Gives Web Pages a Push

Fireclick accelerates page load times by caching them to users' browsers

BY JAIKUMAR VIJAYAN

One of the constant challenges online fashion retailer Bluefly Inc. faces is ensuring that its graphics-heavy Web pages are delivered to site visitors as quickly and efficiently as possible.

The New York-based company sells big-name labels at deep discounts and depends on the speed, richness and personalization of its Web content to attract and retain customers.

That's why just before the Christmas shopping season last year, Bluefly signed on with Fireclick Inc., a Los Altos, Calif.-based firm that specializes in accelerating content delivery to the end user.

Founded in 1999 by three Stanford University engineers, the 35-person company uses a patented predictive-caching technology to download content to a user's browser before the user requests it.

The technology can dramatically speed up the rate at which pages — especially graphics-laden ones — can be served up to users, says Andreas Turanski, vice president of technology at Bluefly.

"They've helped make our delivery a heck of a lot better and made our customers a lot happier, as far as we can tell," by sharply reducing page download times, he says. Since deploying the technology, the average order size of Bluefly customers has increased substantially, Turanski says.

Faster Last Mile

With Fireclick's products, Web sites can handle more traffic with less hardware while delivering content up to 10 times faster, claims Ram Srinivasan, the company's president and CEO.

"We provide a service that accelerates content delivery over the last mile of the Internet," he says. Traditiooally, it's this connection between the Internet service provider and customers that has been the slowest, Srinivasan explains.

Fireclick sells its technology both as a product, Blueflame, and as a service, Netflame. They run on both Windows- and Sun Solaris-based Web servers. At their core is a caching capability that combines real-time clickstream data with probability analysis to predict the content a user is likely to request.

When a user is reading a page on a Blueflame-enabled Web site, a small Java applet preloads content from the site to the user's browser for fast retrieval, based on an analysis of previous usage patterns.

Most content-delivery technologies and services focus on Web server caching or use edge servers to move frequently requested content, such as company logos, closer to the end user's machine.

But they stop short of proactively prefetching content as Fireclick's offerings do, says Michael Hoch, an analyst at Boston-based Aberdeen Group Inc.

"In that sense, Fireclick is unique in what it does," says Neil Goldman, an analyst at The Yankee Group in Boston.

Team Player

Fireclick's technology works best when used in tandem with other caching and content-distribution technologies, according to Hoch. That's why Fireclick has partnered with companies such as Cambridge, Mass.-based Akamai Technologies Inc. and Seattle-based F5 Networks Inc.

As broadband technologies such as cable and Digital Subscriber Lines begin to gain wider adoption within the next few years, there won't be as clear-cut a case for services such as Fireclick's, analysts say. But that hasn't stopped investors, who provided an infusion of $13.5 million in funding in January, bringing total capital investment in the start-up to $25 million.

Fireclick hasn't yet turned a profit, but it plans to sell increasingly to Internet service and hosting providers who can rebrand and resell its technology as a value-added service.

"We have been hit by the economic downturn, as you might expect," Srinivasan says. "But we believe we have something that is absolutely necessary for accelerating content over the Internet."

FIRECLICK founders Stephane Kasriel (left) and Xavier Casanova developed caching technology to accelerate Web content delivery.

Fireclick Inc.

289 South San Antonio Road
Los Altos, Calif. 94022
(650) 917-7600

Web: *www.fireclick.com*

Niche: Accelerates Web content delivery over the Internet through local browser caching

Company officers:
- Ram Srinivasan, president and CEO
- Stephane Kasriel, chief technology officer and co-founder
- Xavier Casanova, co-founder

Milestones:
- June 1999: Company founded
- March 2000: Blueflame introduced
- January 2001: Secured $13.5 million in Series C funding

Burn money: $25.5 million from Cisco Systems Inc., Menlo Ventures, Atlas Venture and Thomas Weisel Partners LLC

Employees: 35

Products/pricing: Blueflame and Netflame product fees are based on the number of sessions accelerated per month by the service, beginning at $2,000 per month.

Customers: Victoria's Secret, Fool.com, Akamai Technologies and Franklin Covey Co.

Partners: Akamai, Hewlett-Packard Co., Cisco, Mercury Interactive Corp., Sun Microsystems Inc. and F5 Networks

Red flags for IT:
- The product works best when used with other acceleration technologies.
- Growing adoption of broadband may reduce the need for last-mile acceleration of Web content.

COMPUTERWORLD emerging companies

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Last-Mile Leader

Fireclick may be unique in the way it speeds "last mile" content delivery by caching pages to users' desktops, but other vendors also offer technologies that improve Web performance.

Vendors of content caching technologies and distribution services specialize in moving content over the so-called first and middle miles of the Internet to the edge of the network, where end users can quickly access it.

In that sense, "Fireclick is complementary to a lot of technologies out there," says Michael Hoch, an analyst at Boston-based Aberdeen Group Inc. Fireclick won't help performance if the bottleneck resides at the Web server; it works best when deployed along with Web server caching and other content distribution technologies, he says.

Packeteer Inc.
Cupertino, Calif.
www.packeteer.com

The company's AppCelera application acceleration servers use compression and caching to speed the transfer and display of Web content. Packeteer also sells a range of traffic, bandwidth and application service management tools.

CacheFlow Inc.
Sunnyvale, Calif.
www.cacheflow.com

CacheFlow's Edge Accelerator stores frequently accessed Web content in separate cache servers. The cache responds directly to user requests for content. If the content is stored in the cache, it's served directly to the user. Otherwise, the accelerator fetches the content from the origin server, downloads it and then stores the content in cache.

Chutney Technologies Inc.
Atlanta
www.chutneytech.com

Its PreLoader product is designed to reduce server-side delays resulting from the dynamic generation of Web pages. It caches content at a component level, whether it's product prices, product descriptions or top news stories. The technology combines a caching engine, a cache replacement scheme and integrated monitoring and reporting tools.

– *Jaikumar Vijayan*

Network Sniffers

BY ALAN JOCH

DEFINITION

Network sniffers are diagnostic software applications, often bundled with hardware devices, that provide protocol-level analysis of data flowing through a network, packet by packet. This information can help administrators monitor and identify performance problems.

THE TOOLS known as network sniffers are named after a product called the Sniffer Network Analyzer. Introduced in 1988 by Network General Corp. (now Network Associates Inc.), the Sniffer was one of the first devices that let managers sit at their desks and take the pulse of the larger network.

The original sniffers read the message headers of data packets on the network, giving administrators details about the addresses of senders and receivers, file sizes and other low-level information about those packets, in addition to verifying transmission. Using graphs and text-based descriptions, sniffers helped network managers evaluate and diagnose performance problems with servers, the network wire, hubs and applications.

Two Types of Sniffers

Today, sniffers exist in two broad varieties. The first is a stand-alone product incorporated into a portable computer that consultants can carry to customer sites and plug into the network to gather diagnostic data. The second is part of a larger package of network-monitoring hardware and software for helping organizations keep tabs on their LANs, WANs and Web services. These bundles give administrators a centralized view of networks to monitor high-level activity, such as which applications are running, which users are logged on to the network and who is the source of unusually large files or high volumes of traffic.

Rather than merely identifying low-level characteristics such as packet source and destination, current sniffers can decode data from all seven layers of the Open System Interconnection network stack and can often recommend fixes for problems. If application-level analysis fails to provide a solution, sniffers can drill into low-level activities.

Modern sniffers typically incorporate remote monitoring standards (Rmon and Rmon 2), which define a standard way for systems to automatically collect key performance data points such as resource utilization. Rmon-savvy sniffers can take constant readings on the health of network components and compare those readings against historical trends. If necessary, they can trigger alarms when traffic loads or performance delays surpass limits set by network administrators.

Among today's wide-ranging network analysis products is the Sniffer Total Network Visibility Suite from the Sniffer Technologies unit of Santa Clara, Calif.-based Network Associates. Intended for companies that conduct business over the Internet, the application can generate reports about protocol and bandwidth usage when traffic over the public network stalls.

Similarly, Westford, Mass.-based NetScout Systems Inc. recently introduced the nGenius Application Service Level Manager to track response times of individual links on the user's Web site and determine which servers are experiencing slowdowns. The application can look at performance over the public network to create a customer-side view so administrators can ensure that communications in individual regions aren't faltering while the rest of the network looks healthy.

Copenhagen-based NetTest (formerly GN Nettest) recently introduced Fastnet, a network-monitoring system that helps e-businesses with capacity planning and network troubleshooting.

The anticipated convergence of voice and data networks could once again put sniffers in the spotlight, as prioritizing traffic flow down to the IP packet level becomes essential to keeping voice and video messages intelligible.

For example, last spring, Sniffer Technologies introduced Sniffer Voice, a tool designed for managers of converged networks. Besides providing traditional diagnostic services for managing e-mail, Internet and database traffic, the product identifies and recommends fixes for network problems that can make IP voice traffic unintelligible.

Hackers Like Them, Too

It's useful to remember that sniffers have Jekyll and Hyde personalities: They help keep networks humming, but they can also be used by hackers to uncover user names and passwords from data packets traveling across public or private WANs. Encrypting the headers of data packets (using the Secure Sockets Layer standard in browser-based environments, for example) thwarts sniffer-assisted password thefts.

In the end, there's no substitute for a network sniffer when you need to understand what your network is doing. A good sniffer helps you look at a network segment and determine the volume of traffic and how it varies during the course of a day, which users make heaviest use of the network and whether there are broadcast traffic or bandwidth issues. A sniffer also helps you capture all the data frames on a network segment during a given time period.

However, network sniffers are expensive. If you're planning to get one, understand clearly what you want to do with it and what speeds you'll need it to handle.

Joch is a freelance writer in Francestown, N.H.

Sniffing Out Convergence

As corporations consider the efficiencies and cost advantages of merging today's separate voice and data networks onto one IP pipeline, network tool vendors are busily evolving sniffer products. In the first half of this year, a handful of vendors introduced IP voice components for their network administration products.

Acting like the data sniffers of old, these new tools use their understanding of voice protocols to root out performance problems surrounding IP telephone calls.

"Convergence brings about new complexities for network administrators," says Glenn Crossman, director of product management at NetScout Systems. "Voice traffic is highly time-sensitive. Sniffers can watch every bit and byte that travels over the wire, interpret headers and automatically deduce the data's priority."

For details about these emerging diagnostic tools, visit the following Web sites:

- **NetTest**
  Hopkinton, Mass.
  (508) 435-3800
  www.nettest.com
- **NetScout Systems**
  Westford, Mass.
  (978) 614-4000
  (888) 999-5946
  www.netscout.com
- **Sniffer Technologies**
  Santa Clara, Calif.
  (972) 308-9960
  www.sniffer.com

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Can't We All Just Get Along?

Contractors are usually hired by upper management and then put to work with the rank-and-file IT staff. So it's critical that contractors avoid conflict and politics at (nearly) all costs. By Mary Brandel

During the first week of a yearlong contract with Hills Stores Co. in Canton, Mass., Andy Wysocki was asked to work on a point-of-sale program for the $2 billion retailer. (Hills was bought out by Rocky Hill, Conn.-based Ames Department Stores Inc. in 1999.)

The following week, he and another contractor on the project were asked to change the user interface "to something that, in my book, wasn't usable," says Wysocki, an independent contractor who is now based in San Francisco. The other contractor on the job fought the change the whole way, "but I just kept reminding him that they were paying us good money and to just ignore it and do what they wanted."

By the third week, the company had asked the team to change the interface back again. At this point, "the other contractor was very, very unhappy," Wysocki says. "But to me, it was just my job."

Clearly, Wysocki is no idealist, but his attitude is a good one to adopt if you want to navigate the many political and cultural waters you encounter as an independent consultant. Contractors are usually hired by upper management, but they function in a rank-and-file world. This means they have to get along with all types of people and climates, ranging from friendly at best to toxic at worst.

Short of obtaining a degree in organizational psychology, contractors can follow some rules of thumb to avoid or at least coexist with a company's land mines and political quagmires. The most important rule — as Wysocki has learned — is to do what the person who hired you tells you to do.

"If you don't agree with what they want to do, bring up your concerns. But if they don't want to budge, remember, they are paying the bill," Wysocki says.

Political tangles are something every IT contractor should avoid. "The people I've seen get in trouble with a corporate culture are those who mistakenly thought they understood the environment they'd entered, when in fact they could not because there were hidden political agendas at work " says Janet Ruhl, book author and host of Realrates.com, an online resource for computer consultants.

Wysocki goes so far as to not attend company-related meetings if they don't pertain to his project. "I consider the pecking order of the people and try to keep the one who signs my invoices happy," he says.

That doesn't necessarily mean wimping out of every politically charged situation. "I work very hard to not take sides, but if I find I disagree with somebody, I always talk to that person first. It's not easy, but I do confront my problems," Wysocki says.

And it doesn't mean doing your job with your eyes closed. In fact, Tom Welch, a certified project manager in San Antonio, says he spends his first few days on any new contract with his eyes wide open. "A consultant doesn't have to be the smartest one on the team, but he does have to be the most observant," Welch says. That includes assessing both the organization and the individual members of the team you're working on.

Most important, Welch says, is to realize you're not there to shine. "You definitely don't want to be a know-it-all," he says. "There are people who know the project and the technology better than you. Your job is to coach them to bring the best out of everybody. If you go in swaggering, you're going to catch hell."

Brandel is a freelance writer in Newton, Mass.

Personality Traits

PROS

The following characteristics will work to your benefit when on a client site:

- Intuitive about other people's personalities and needs
- Observant of group dynamics
- Flexible about how things should be done
- Willing to try out others' ideas
- Tolerant of many different personalities
- Desire to remain independent of political intrigue

CONS

The following characteristics may work against you when on a client site:

- Idealistic about how things should be done
- Need to see your own ideas implemented
- Headstrong
- Technology-biased
- Strong need to be liked and admired
- Strong need to belong to a group
- Desire to get involved with internal politics

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Programmer Analyst (Multiple Openings): Plans, develops, tests, and documents computer programs. Converts project specifications, using flowcharts and diagrams, into sequence of detailed instructions and logical steps for coding into computer language. Analyzes, reviews and alters program to increase operating efficiency or adapt to new requirements using mainframe computer systems and related software. Work involves extensive travel and frequent relocation. Must have experience using 1 of Group A and 1 of Group B and 1 of Group C, OR 2 of A and 1 of B, OR 2 of A and 1 of C as follows: Group A - DB2, IBM3090, IBM ES9000, MVS, IMS, IDMS. Group B - CL/400, CICS, TSO, VSAM. Group C - TELON, COBOL, JCL, AS/400, RPG/400, COBOL/400. Bachelor's degree in one of several listed fields. Computer Sci/Appls, Eng., Chem., Math or Physics. Salary is $67,000 per/yr, 40 hrs/wk, 9:00-5:00 p.m. Please submit resumes to: Director, Pittsburgh/Allegheny Co. Career Link, ATTN: Alien Labor Cert. Unit, 425 Sixth Avenue, Suite 2200, Pittsburgh, PA 15219, Job Order No. WEB 185169.

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Programmer/Analyst, $55,850/yr: Plan, develop, test and document software programs for business and tech applications. Program in Delphi, C, C++, Visual Basic, PVCS, Seagate Crystal Reports and MS SQL. Must have Bachelor's degree in Computer Science, Engineering, or Physics with at least 2 years experience in computer programming and software development and the ability to work at various locations through the U.S. Apply at the Texas Workforce Commission, Dallas, Texas or send resume to 1117 Trinity, Room 424T, Austin, Texas 78701, JO# TX1102260. Ad paid by an Equal Opportunity Employer

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Computer Programmer Design and implement Website for computer distribution company, design and develop e-business programs for company's customers. BS in Computer Science. Send resumes to Attn: Jennifer Hill, President, Magtron Intl. Inc., 5175-A Northbelt Pkwy, Norcross, GA 30071

Account executive to represent manufacturer/distributor of information systems in the southern half of Florida; develop new accounts, find solutions to clients' information technology needs by combining hardware and software products by various manufacturers, should be able to "cold call" and work independent of technical or marketing assistance and should have at least three major accounts to bring over. IBM RS/6000 and at least two COMPAQ sales certifications required, must be knowledgeable in latest computer technology, with basic configuration skills, work at home or on the road, must develop own marketing materials and be able to prepare effective proposals; at least ten years experience in sales, and proven ability to meet /surpass sales quotas, some college, B.A. helpful but not required. Send resume to: Agency for Workforce Innovation, P.O. Box 10869, Tallahassee, FL 32302. Job Order #FL-2189534

Systems Analyst (multiple openings) to develop ABAP/4 programs; customize materials management; system analyses, database design, development & implementation; develop MRP II using Oracle, PL/SQL, Pro*C, ReportWriter and SQL; plan and prepare technical reports and manuals; upgrade system and correct errors to maintain system after implementation. Reqs Bachelor's in Comp. Sc., Comp. Engg., Computer Appl., Computer Info. Systems, Electrical or Electronic Engg., or Math or its foreign educ equiv plus 1 yr exp. in job offered or 1 yr related exp. as an Analyst Programmer/Programmer Analyst, Programmer, Computer Programmer, Software Engr, or Trainee. Related exp. must include system analyses, development, implementation and using Pro*C, Oracle, PL/SQL & ReportWriter. $72,218/yr. 40 hrs/wk, OT as req'd. 8a-5p. Applicants must show proof of legal authority to work in U.S. Send 2 copies of both resume & cover letter (No Calls) to Illinois Dept. of Employment Security, 401 S. State 9-7 North, Chicago, IL 60605, Attn: Lela Jackson, Ref. #W-IL25177-J. Employer Paid Ad.

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Software Specialist I Analyzes, develops, implements, and modifies various aspects of an SQL relational database information technology system which is installed in multiple networked operating systems. Establishes appropriate database reporting functions including report definition and formatting and implementation of reporting functions depending upon end users reporting needs. Requires Bachelor's degree in Computer Science, Mathematics, or Business. Also requires six months experience in the job to be performed or six months experience as a Database System Analyst. & experience in related occupation, experience must include performance of all duties as specified in the job offered. Hour: 8:00 a.m. - 4:30 p.m., 37.5 hours per week at $48,436.00 per year salary. Please send resume with social security number to the Indiana Department of Workforce Development, 10 N. Senate Avenue, Indianapolis, IN 46204-2277. Attention: Tim Leehorn. Must refer to ID#6120055.

Web Developers/Practice Consultants (Healthcare Solutions) Provide functional/technical expertise for interactive web development solutions for healthcare organizations including Hospitals, Physician Networks, HMOs, etc and content development utilizing knowledge of medical and health processes and spreadsheets, database management systems including ASP, VB, Crystal Reports, SQL Server 2 years exp. or training in job offered. 2 yrs relevant post secondary education or foreign equivalent in medicine/health or related clinical education will be adequate in lieu of training or experience. Multiple positions. Travel to client sites req'd. Contact HR Quantum Intotech, Inc 30600 Telegraph Road Suite 2220, Bingham Farms, MI 48025.

Sr. Manager Financial Systems The key member of the Finance /Technology Services Team plays a critical role in planning, development, design, administration and technical support of SQL-based database solutions in traditional and web-based environments. Responsible for building database solutions to meet current and future finance systems needs. Key functions include the design and implementation of database infrastructures and the support of financial applications and processing environments. Responsible for database systems performance monitoring and tuning, disaster recovery, data storage management, resource allocation, stored procedures, and coordination of the migration of data among all production databases. Provides technical support for in-house Epicor Accounting System and Paratrac Project Management System. Requires: B.S. in Computer Science or equiv. and min. 5 years experience in computer systems management and analysis, to include 3 years experience with FRX, SQL-based systems and management of Epicor/Platinum and Paratrac/Paratrac systems, and experience with Visual Basic, Crystal Reports, SQL stored procedures design, SQL Database server and Windows NT platforms. Experience requirements may have been gained concurrently. Salary DOE. Bonus potential. Applicants must have legal authority to work permanently in the U.S. Please send resume to Ms. S. Marques, Waggener Edstrom Inc. 3 Centerpointe Dr., #300, Lake Oswego OR 97035.

Bilingual Information Systems Analyst/Programmer Duties: Conduct studies and surveys to obtain data to implement bilingual computer operating and acct systems. Maintain, test and upgrade bilingual (English/Japanese) computer networking, acct. and internet systems to facilitate transfer of data and info. throughout Japanese-Amer enterprise, and to convert data and info. from Eng. language environment to Japanese environment and vice versa. Implement comp. networking system using Frame Relay WAN, VPN and LAN. Design DB system using RDMS, analyze business flow and draw DFD and ERD. Design, develop, and maintain front-end system using Visual Basic, Java, and C++ with Object Oriented Appl. Design Method and/or Rapid Appl. Devel. Method following Sys. Devel. Life Cycle. Req: MS in Info Sys or Comp. Sci. Must be able to speak, read and write in English and Japanese. Must have taken grad. level courses in Relational DB Management Sys., Object Oriented Appl. Design and Data Warehouse and Decision Support Sys. Hrs: 8:30am-5:00pm, 40 hrs/wk, $73,424/yr. 2 positions. Must have proof of legal authority to work permanently in US. NO CALLS-SEND 2 COPIES OF BOTH RESUME & COVER LETTER to: IL DEPT OF EMPLOY. SECURITY, 401 S. State St., 7-N, Chicago IL 60605, Attn: Berl Grunnet. Refer V-IL-2588A-P. AN EMPLOYER PAID AD.

Systems Analyst. Designs, develops, analyzes, tests, and modifies complexed management information systems using object-oriented design, development, and programming concepts to modify a Delphi and/or Oracle COM relational database management information system including use of interbase and SQL server. Insures appropriate systems integration, migration, and adaptability of such systems for installation in a web and/or networked environment including use of stored procedures and triggers for systems implementation. Required: Bachelor's degree in Computer Science, Mathematics, Physics, or Physics and Computer Science. Two yrs. exp. in job offered. $65,000/year; 40 hrs. week, 8:00 a.m.-5:00 p.m. Two copies of resume to: CHAR PHOULAVAN, DWE-FLC, P.O. Box 7972, Madison, WI 53707-7972. Reference file #C101993.

Rules Engineer/Sr Soft Engineer Job Location: Scottsdale, AZ. Duties: Determine concepts & software rules for specific job requirements. Perform concept & rule analysis for soft executing using various rules engines including: Advisor, Jess & Art. Develop & execute rules through an inference engine. Work with clients to facilitate successful implementation of soft contracts, using C/C++, Java, HTML, XML, Windows NT, 95 & 3.1, Art Intelligence (AI), rules development, process & domain modeling. Requires: Masters of foreign equiv in Engineering, Mathematics or closely related field plus 4 years exp. in the job offered or 4 years exp. as a Soft. Developer/Engineer Exp., which may have been obtained concurrently, must include 2 years exp. using Java & HTML. Send resume to Vince DeSorbo, Zeosoft Corporation, 7430 East Butherus Drive, Suite D, Scottsdale, AZ 85260.

Credit Analyst I for E-Commerce seller of computer products/services. Obtain & analyze financial info., using applicable accounting & financial techniques, to determine credit risk; compile on spreadsheet & database programs; help create & apply systems to analyze & evaluate finances & credit worthiness; prepare reports incl risk anal. & projections; participate in decisions re credit, terms, etc.; follow-up credit profiles, & statistically analyze criteria for credit. Req. B.A. or equiv. in Business or related. Respond to VP, HR, En Pointe Technologies, 100 N. Sepulveda Blvd., 19th Fl., El Segundo, CA 90245. FAX (310) 725-5237.

Software Engineer-Participate in the research, design, development, and maintenance of a large-scale healthcare software system, focusing on its web reports. Use Report Server, Oracle, MS-Access, XML, Java Script, M.H.C., IIS, ASDK Windows NT, Actuate Developer Workbench, Actuate Basic, and other Actuate products. Degree and exp. req'd. Send resume to Recruiter, L.A. Care Health Plan, 555 W. Fifth St., 19th Fl., Los Angeles, CA 90013.

Require exp'ed Prog/Sys Analysts, Network Engineers, DBAs and S/W Engineers for branch locations in Santa Clara, CA, Mt. Laurel NJ, Conshohocken, PA. Skill sets - C, C++, Java, HTML on UNIX/Windows; Visual Basic, Visual C++, Power Builder, Oracle, PL/SQL, Pro*C, UNIX, Windows 2000/NT Sys. Admin. Require BS/MS in CS/Engg/Math/Business/Science (or its foreign equiv. and/or equiv. in education and exp.) and relevant exp. Travel/ Relocation required. Salary commensurate with exp. Resumes to: HR, Fourth Technologies, 1333 Lawrence Exp. way, # 486, Santa Clara, CA - 95051.

Director, Bus. Planning, E-Commerce/B2B. Formulate policy & strategy to identify alliance partners & institutional customers for services, & forge alliances. Develop & oversee gathering & analysis of demographic, market, products, etc data; interface w/ management, sales & existing groups to focus & implement strategy. Requires MBA & min. 2 yrs. experience in same or related area. Send resume to VP, HR, En Pointe Technologies, 100 N. Sepulveda Blvd., 19th Fl., El Segundo, CA 90245.

Computer System Administrator Wanted for an IT firm to design and build mission critical systems in a data center, setup and configure high-end enterprise server, operating system, third party software and application. Master's degree in science or engineering and two years of experience required. Send resume to: ATTN: Technical Recruiter, Worldchain, Inc., 5433 Westheimer, Suite 1016, Houston, TX 77056.

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Systems Consultant, Business Development. Design database, client/server development for business development, and clients financial needs. Analyze records, devise methods of collecting and processing data and provide interpretation. Provide effective solutions for complex business problems. Tools, Visual Basics, Visual SourceSafe, Oracle, Crystal Reports, SQL, PL/SQL. Bachelor's degree in Business or Management Information System and 1 yr. exp. Send resume to H. Felker, Blackwell Consulting Services, 100 S. Wacker Dr. #800, Chicago, IL 60606.

Market Research Analyst II. E-Commerce/B2B. Conduct mkt research for computer products & svcs to determine potential & maintain & improve sales & market penetration. Establish, design & administer formats for mkt research & analysis, prepare reports & analyses, & use to help determine making strategy & focus. Train & supervise staff & junior analysts. Follow up to determine effectiveness of methods & efforts of competitors. BA or equiv + 1 year. Respond to VP, HR, En Pointe Technologies, 100 N. Sepulveda Blvd, 19th Fl, El Segundo, CA 90245.

Oracle Database Administrator (Houston, TX): Coordinates physical changes to Oracle databases, and codes, tests, and implements physical database, applying knowledge of database management system, using JDBC/ODBC to call database procedures, using Java WebServer, Remedy Action Request Server, JBuilder, and Assembly on Windows and Unix. B.S. in Computer Science, MIS, or related field with 1 year experience to the job offered. Contact: Kristin Stone of Zeta Works LLC at 5295 Hollister, Houston, TX 77040; Tel: (832) 590-6152; Fax (832) 590-6161.

Software Engineer. BS or equiv in Computer/Engineering + 1 yr as Software Engineer or Programmer-Analyst. Design, create, maintain Internet/Intranet B2B E-Commerce tech. Interface/ integrate w/ SAP R/3. Must be fluent in XML, VBCOM, JAVA, ASP, VBSCRIPT, DHTML, HTML, Visual C++, SQL, DCOM, MS Access, SAP R/3, Web-based dev. tools. Respond to VP, HR, En Pointe Technologies, 100 N. Sepulveda Blvd, 19th Fl, El Segundo, CA 90245.

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IT Careers in Telecommunications/Wireless

"I tend to look for flexibility and adaptability, as well as knowledge of how telecom works," explains Alex Lederman, technical group lead for the e-business unit at **Verizon Communications** in Dallas. "We hire new graduates and experienced people, but what makes them stand apart is that knowledge of what is driving this industry." **Verizon** tends to recruit people with the latest technical skills to support the new business centers, including e-business.

For new college grads, **Verizon** has developed a systems architect development program. "This takes new graduates through 18 months of rotations throughout the company," says Lederman. "They gain an understanding of all the technologies and projects before being assigned a lead position on their own projects."

Currently **Verizon** is working on a wide range of projects. Following the formation of the merged company, **Verizon** was required by the FCC to create a separate affiliate of its DSL, frame relay and broadband services. The IT group was responsible for developing the technology infrastructure enabling the business. "We had a time constraint for designing and implementing a new operation support system, as well as integrating systems and building the links from scratch," Lederman says. In addition to building entirely new systems, IT professionals with **Verizon** are continuing to develop more and more customer-based services and developing new automated systems to drive down the cost of delivering service to customers.

"It may sound corny, but **Verizon** is providing a stable environment to IT professionals as well as the opportunity associated with always doing something new," Lederman says. "We aren't assigned to repetitive tasks. Plus we have the push of a big company to drive the future, influencing how technologies develop."

For more job opportunities with telecommunications/wireless firms, turn to the pages of ITcareers.

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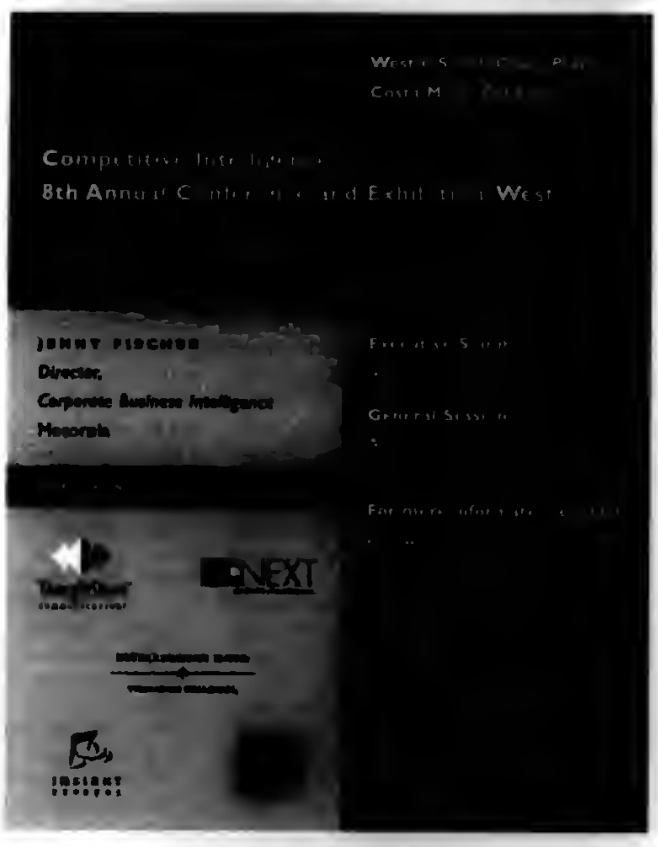

MBARI

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Founded in 1987 by the late David Packard, Monterey Bay Aquarium Research Institute is a private oceanographic research institute, uniquely dedicated to the development of state-of-the-art equipment, instrumentation, systems and methods for scientific research in the deep waters of the ocean. Located in Moss Landing, California, MBARI's research center includes science and engineering laboratories, as well as an operations facility to support our research vessels and oceanographic equipment, including remotely operated vehicles. For more information on MBARI, please visit our web site at http://www.mbari.org

This position plans and administers computerized databases, including base definition, structure, documentation, long range requirements, and operational guidelines. Ensures accuracy and completeness of data in master files and various support tools. Establishes and maintains security and integrity controls. Recommends policies and procedures relating to database management. Assists engineers, developers, scientists and other staff in the use of information management and database technology by providing both technical support and database administrative support and services. Stays abreast of and promotes the use of information management technologies which will improve the quality and effectiveness of data management and development efforts.

Bachelor's degree in a technical discipline or equivalent experience in database administration is required. Significant experience and demonstrated ability in the administration of Microsoft Back Office products including NT Server and SQL Server required. Must possess excellent communication and organizational skills. Must be able to work with diverse group of people. Must be willing and able to go to sea for a specified duration.

Please send resume and cover letter to MBARI, Human Resources, 7700 Sandholdt Road, Moss Landing, CA, 95039-9644, fax to (831) 775-1620, or email to jobs@mbari.org.

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SENIOR BUSINESS SYSTEMS ANALYST

Spectra seeks to fill a position for a Senior Business Systems Analyst to play leadership role in areas of documentation and data control, Quality systems, Engineering Change Management, ERP and Workflow.

Job Duties: Analyze design and implement new systems and enhancements addressing functional problems from initial investigation through design, coding and implementation; develop and maintain software solutions for complex business issues; be responsible for project planning, including scope tasks, deliverables, milestones and documentation; coordinate, guide and document user requirements for systems to be developed or modified; be responsible for report writing, Data Mart/Data Warehousing development, and ERP application support; make use of engineering and manufacturing expertise to analyze and implement major cost reduction programs.

Requires: Bachelor's degree or equivalent with academic training in Systems Analysis and Applications Programming; four (4) years' experience in applications development, implementation and maintenance in a manufacturing or engineering environment; SQL database skills (Oracle and Access preferred) in a UNIX/NT environment, experience with PowerHouse and Visual Basic software.

Salary: $85,000 per year. Please direct all inquiries to Karen Hebert, Director of Human Resources, khebert@spectra-inc.com or Spectra Inc., PO Box 68C Hanover, NH 03755.

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Physical Security Seen as Key in Protecting Networks

Former CIA network architect, designing new facility, offers lessons for corporate IT

BY DAN VERTON

AN EXPERT WHO helped design classified networks at the CIA is now helping Reston, Va.-based managed security services firm TruSecure Corp. shed new light on the importance of physical security in protecting corporate data.

Bernie Hudler, a former network architect at the CIA, is taking a holistic approach to physical security and cybersecurity in his work designing and building TruSecure's multimillion-dollar TruSecure Operations Center (TSOC). The center is scheduled for completion later this year and is part of a corporate expansion made possible by a $22 million round of financing in April.

"We look at security from the perspective of, How would we attack and penetrate this facility and the network?" said Hudler, manager of the TSOC. Then, "once somebody is in, What can they do, and how are we going to limit their access?"

Basic Precautions

That's where the realms of physical and online security merge to form an intricate latticework of network- and physical-access monitoring tools. Whether your company is building a data warehouse or a full-blown, round-the-clock global operations center, the basics still apply, said Hudler and other experts.

Because the biggest threat to corporate data comes from employees and contractors with internal access to networks and facilities, Hudler and other experts said integrating physical-access monitors and policies with network security is vital to a company's overall security posture.

When the TSOC is complete, the floors of the building will be segmented. Senior-level executives with access to the office suites won't have access to the fourth-floor operations center. Likewise, the dozens of eogioeers aod specialists working in the TSOC won't have access to any informatioo or office space without what Hudler and the rest of the intelligence community call a "need-to-know."

"The best thing for companies to do is limit need-to-know," said Hudler. "Don't give a person too much information. I'm prepared to segment the data even further."

TruSecure has spent about $600,000 on physical security precautions for the new facility, he said. There will be cameras installed throughout the center, leaving no individual workspace free from monitoring. Only Hudler and a few senior security executives will know where tbe cameras are.

Moreover, there will he secure kiosks located throughout the TSOC for accessing specialized applications, and reinforced cages will separate the hardware running various network routing and management systems.

Many of the security mechanisms will be transparent to employees. And all TSOC personnel must accept the high level of security as a condition of employment. "It's not that I don't trust them; I just don't trust them," said Hudler.

The exteosive security mechanisms being put in place at the TSOC are common for most secure facilities. Tari Schreider, vice president of global operations at Atlanta-based Internet Security Systems Inc. (ISS), oversees six network operations centers around the world.

According to Schreider, all security-conscious operations centers "need to have some sort of secure access," either in the form of biometric authentication devices or smart-card readers. Likewise, cameras and closed-circuit television are key, be said. "You have to worry more about monitoring the people that are inside the facility," he said.

Continued from page 1

Auctions

fiercely competitive automotive industry, said Thilo Koslowski, an analyst at Stamford, Conn.-based Gartner Inc. "Volkswagen wants to make sure that they can close the windows and pull down the shades so that no one can see what they are doing," he said.

Johnsoo Controls Inc. in Milwaukee is tackling similar security concerns. The $17 hillion maker of car interiors launched its own online exchange in March to handle online auctions, bidding oegotiations and supply chain issues.

Mike Suman, group vice president for e-business at Johnson Controls, said he wasn't content to conduct the supplier's electronic business over a third-party infrastructure. "If a company ever gets a reputation of cross-pollinating data, it would be their death," Suman said. "In the end, how secure you are is everything."

While Volkswagen officials claimed that they didn't experience any security breaches with eBreviate, the automaker also wanted more control over the applications that run a significant part of its business. Hansen said Volkswagen has needed to tweak the auctioo software it used with four different service providers, including that of Walnut Creek, Calif.-based eBreviate.

For example, Volkswagen used online auctions to negotiate pricing on its long-term parts contracts, but the service providers weren't able to electronically handle other parameters, such as prototyping costs, production scheduling and retooling costs.

"We'd have to do a lot over the phone, and you aren't really saving time or money then," said Hansen. Now Volkswagen can make adjustments whenever it sees fit, she said, and "we can set up our own auctions without asking a third party."

Customizing auction services and software and then trying to link suppliers with internal systems is a challenge for many companies, said Dan Garretson, an analyst at Forrester Research Inc. in Cambridge, Mass.

- **Volkswagen will install auction server software** at its data center in Wolfsburg, Germany, by the end of next month.
- **It will complete integration** between server software and back-end systems, such as an SAP ERP system and a manufacturing plant capacity system, by spring.
- **EBreviate will develop XML-based messaging** and single sign-on capabilities by spring.

"Some large companies use [hosted applications] as a pilot," he said. "That way, they can try it out without making a huge commitment to hardware and maintenance."

Volkswagen's migration to a server-based auction platform will take at least another nine months to complete, Hansen said. During that time, eBreviate, a unit of Plano, Texas-based Electronic Data Systems Corp., plans to develop a custom XML-based messaging system and single sign-on capabilities and to beef up security for Volkswagen, eBreviate officials said.

Still, most companies aren't interested in running an online auction service. Owens Corning, a $5 billioo maker of composite materials in Toledo, Ohio, conducted more than $400 million in auctions last year using hosted services.

J.P. Blanchard, the global e-commerce sourcing leader at Oweos Corniog, acknowledged that he has some concerns about costs and security but said that the company has no plans to bring those applications in-house.

"We're not in the online bidding-software business," he said. "We have a strong sourcing organization, but that's not our expertise."

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FRANK HAYES/FRANKLY SPEAKING

Java Heat Is on Sun

AFTER YEARS OF THREATS, sniping and dirty tricks, Microsoft is finally bailing out of the Java business. Last week, the company confirmed that it has de-integrated Java from Windows XP and all future versions of its operating systems (see story, page 7). No surprise there — it was obviously what Microsoft had in mind in January when it finally settled the 1997 lawsuit brought by Sun Microsystems over Microsoft's version of Java.

And as a parting shot, Microsoft has changed its security classification of Java in Windows XP from medium risk to high risk.

That means Java applets won't run in Windows XP's Internet Explorer if IE's security settings are set to "high." And Java won't run at all under Microsoft Outlook or Outlook Express with their default settings.

Sure, it's a cheesy move. Java hasn't become riskier. There's never been a significant outbreak of Java-based viruses. The Java risk is much lower than, say, Microsoft Word macros — the medium of choice for virus writers and script kiddies today.

But Microsoft isn't making Java anymore, so Java gets reclassified as a high security risk.

Besides, we all know why Microsoft is willing to make Java as unavailable as possible: Microsoft finally has something to replace Java. Its shiny new C# language works a lot like Java. It's designed to be a lot like Java. It's Microsoft's answer to Java — and C# is facing an uphill struggle against Java.

Java has a six-year head start, millions of applications built with it and a seemingly infinite supply of rabidly fanatical developers. You can bet Microsoft has no intention of giving any support to Java that will make C#'s chances any bleaker than they already are.

Will that break some corporate and consumer Web sites for users browsing with Windows XP? Sure. Millions of Web sites use Java. For some, Java is s crucial piece of an e-business application. If there's no Java on a user's PC, the application won't work.

But catching blame for that is a chance Microsoft is willing to take. So now it's up to Sun.

If Sun wants Java on every Windows desktop, that will no longer happen automatically. Sun will have to cut deals with PC makers, the way America Online, RealNetworks and other Microsoft competitors do. And Sun will probably need to bulletproof the Java installatioo process, too.

If Sun wants corporate IT shops to adjust their security settings to let Java applets through, it's educatioo time. Sun will have to push hard to convince PC managers and systems administrators that that's a good idea. Sun is good at getting its messages out to the friendly crowd of Java developers, hut this is a higger and tougher job.

And if Sun wants Java to be more functional than frustrating for ordinary users in the years to come, that's going to require even more promotion and politicking thao Sun has devoted to Java in the past.

Microsoft was oever Sun's favorite husiness partner. But despite all the nastiness between the two companies, there really was an advantage in having Microsoft as a Java licensee — an advantage for Sun and for everyone else using Java. Java was oo every Windows PC.

Back in 1997, when Sun first accused Microsoft of violating its Java license by making unauthorized additions and changes, Sun CEO Scott McNealy said he wasn't really worried. As long as Microsoft's Java runs 100% Pure Java applets, he said, Sun, Netscape and other vendors can always provide the necessary libraries, JavaBeans and other technologies users need.

Maybe it's time for McNealy to start worrying. Starting with Windows XP, there won't be a Microsoft Java to run 100% Pure Java — or anything else. ◗

Frank Hayes, Computerworld's senior news columnist, has covered IT for more than 20 years. Contact him at frank_hayes@computerworld.com.

SHARK TANK

VP CALLS IT PILOT FISH to ask for a lightweight laptop – he's tired of lugging around 9 pounds of silicon and plastic. But fish's database says VP already has a lightweight model. What's the asset tag say? fish asks. VP can't find it but reads fish the model number. "The number doesn't match any known laptop," says fish. "But it does match the docking station for the lightweight laptop."

HOOKING UP A PC to the network connection in the next room is slow going for this pilot fish. First, it finds the network. Then it doesn't. It works. Then it fails again. Baffled fish finally spots the source of the intermittent problem: A curious user is disconnecting and reconnecting the T-connector, "just to see how it goes together."

MARKETING MANAGER complains to Web pilot fish that images on the company's Web site appear "degraded." Before fish can tell him his PC's display resolution is set too low, she gets an earful of his theory: "Maybe the images tend to lose pixels on the server with age and have to be refreshed."

AT YET another reorganization meeting, one exec across the table from a clench-jawed IT pilot fish says, "I really don't understand why we need IT. I have everything I need on my laptop."

THIS IT TEAM has started taking short group walks outdoors during breaks. "It turns out to be a wonderful team-building and job-enhancement time," says one pilot fish. Only problem. They walk past the offices of some VPs who complain that the walkers "seem much too happy." Fish reports, "We have been told to try to be more discreet."

Hey, I'm discreet: **sharky@computerworld.com.** You get a sharp Shark shirt if your true tale of IT life sees print – or if it shows up in the daily feed at *computerworld.com/sharky.*

The 5th Wave

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"I can't really explain it, but everytime I animate someone swinging a golf club, a little divot of code comes up missing on the home page."

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CODERNAUTS DISCOVER WEB SERVICES THAT ACTUALLY WORK.

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SILICON VALLEY, CA– A landmark discovery was announced that may well change the course of business. Web services, as enabled by IBM software and seen in action, provide companies with new ways to make money without spending it.

A lot of hype surrounds Web services, which contain incredible promise. Yet, of all the people talking about Web services, IBM has the software and experience to deliver on that promise today.

TWO PROGRAMMERS FROM A PARALLEL UNIVERSE FOUND THAT IBM SOFTWARE CAN HELP COMPANIES UTILIZE WEB SERVICES TODAY, TO INCREASE THEIR REVENUES.

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Web services utilize industry standards to deploy and integrate applications across the Internet, intranets and extranets.

IT'S A DIFFERENT KIND OF WORLD. YOU NEED A DIFFERENT KIND OF SOFTWARE.

Web services make it easy to adapt systems to changing business needs. Flexible applications using Web services can now be implemented by the IBM software portfolio: WebSphere,® Lotus,® DB2® and Tivoli.®

With their operations enabled by Web services, IT managers can now let others access and use their company's business processes as easily as people download Web pages. The benefits: low cost of development and wider deployment of applications, increasing competitive advantage.

CODERNAUTS LEARNED MORE ONLINE.

For instance, a moving company facing the problem of keeping its trucks full during the entire cycle of the transport, as in return trips during cross-country moves, can now utilize Web services enabled by IBM software to seamlessly locate, book and manage new customers.

Another case is a travel, leisure and entertainment company. The challenge? Link hundreds of applications together to form a one-stop Web portal that provides relevant information and offerings to customers. The result? Expanded services at dramatically reduced costs.

Presently, there are a number of software vendors trying to sell their proprietary technologies as ways to enable Web services.

WEB SERVICES HELP APPLICATIONS COMMUNICATE MORE EFFECTIVELY.

Yet IBM is a proven provider who is delivering a truly open e-business software environment to exploit your existing applications. Today.

Software that enables Web services, known as IBM software, was discovered by two programmers from a parallel universe. "We came looking for better software," said one. "And this is definitely it." For case studies, white papers and an announcement highlights video, visit us at **ibm.com**/webservices/today

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